

13 Rec'd PCT/PTO 04 JAN 2002
09/869486

-1-

SEQUENCE LISTING

<110> Scharenberg, Andrew

<120> CHARACTERIZATION OF THE SOC/CRAC CALCIUM CHANNEL PROTEIN FAMILY

<130> B0662/7026/ERP/KA

<140> 09/869,486

<141> 1999-12-20

<150> U.S. 60/114,220

<151> 1998-12-30

<150> U.S. 60/120,018

<151> 1999-01-29

<150> U.S. 60/140,415

<151> 1999-06-22

<150> PCT/US99/29996

<151> 1999-12-20

<160> 32

<170> FastSEQ for Windows Version 3.0

<210> 1

<211> 1212

<212> DNA

<213> Homo Sapiens

<400> 1

gcacgaggca	aattttttgt	tagtacacca	tctcagccaa	gttgcaaaaag	ccacttggaa	60
actggaacca	aagatcaaga	aactgtttgc	tctaaagcta	cagaaggaga	taatacagaa	120
tttgaggcat	ttgtaggaca	cagagatagc	atggatttac	agaggtttaa	agaaacatca	180
aacaagataa	aaatactatc	caataacaat	acttctgaaa	acactttgaa	acgagtgagt	240
tctcttgctg	gatttactga	ctgtcacaga	acttccattc	ctgttcattc	aaaacaagaa	300
aaaatcagta	gaaggccatc	taccgaagac	actcatgaag	tagattccaa	agcagcttta	360
ataccggttt	gtagatttca	actaaacaga	tatatattat	taaatacatt	aaactttttt	420
agataagatc	tacaaagtgg	tgatatttgg	gactatatca	aaaattcaaa	aaaatttttc	480
ttaagaaaac	tgacttttagc	atagtagcag	ttacagaaaa	gtttcttaca	gtgaatagtc	540
aggaatttta	aagaaaaatt	tatgcagaat	aaaggcagga	atctcttttt	gtttgaattg	600
aagctaatta	tatgaactca	tttccagcta	actgcgataa	tgattgattt	tgcaaattcc	660
ctttaaaagc	acacactgac	aagacaaaaa	gctcaggaaa	aggcagaaaa	attactcctt	720
tataatcaag	tattatatat	aagtcagtgc	tcataatttt	gctcaagaaa	atattgactt	780
acattcatat	atatctgttc	tgccatagag	agattatggt	gttaaaatca	tgttattgaa	840
aaaagttatt	tcagtgggga	aagagggttag	ttaacaaaaga	gattcacagt	aacaaatcct	900
cctttctgga	gggactcttc	ctgaccctga	gctgcacaac	tttgcaacaa	attaaagcct	960
aaccgaagat	gacctcacia	tggaatttta	gaactcatgg	gagtcaactt	acataaacgg	1020
tatttgattt	ctgataagat	agtggaatta	ttggttatag	atgacaaaaat	aagtatgttt	1080
aaagtgatga	tggacataaa	aaagtttttaa	atataaaaaca	tgagaaaaaga	aggagatact	1140
attcaaaaag	actggcaaat	ttgaaaaaact	agaaataaaaa	aaaaaaaaaaa	aaaatgagcg	1200
gccgcaagct	tt					1212

<210> 2

<211> 141

<212> PRT

<213> Homo Sapiens

-2-

<400> 2
 Ala Arg Gly Lys Phe Phe Val Ser Thr Pro Ser Gln Pro Ser Cys Lys
 1 5 10 15
 Ser His Leu Glu Thr Gly Thr Lys Asp Gln Glu Thr Val Cys Ser Lys
 20 25 30
 Ala Thr Glu Gly Asp Asn Thr Glu Phe Gly Ala Phe Val Gly His Arg
 35 40 45
 Asp Ser Met Asp Leu Gln Arg Phe Lys Glu Thr Ser Asn Lys Ile Lys
 50 55 60
 Ile Leu Ser Asn Asn Asn Thr Ser Glu Asn Thr Leu Lys Arg Val Ser
 65 70 75 80
 Ser Leu Ala Gly Phe Thr Asp Cys His Arg Thr Ser Ile Pro Val His
 85 90 95
 Ser Lys Gln Glu Lys Ile Ser Arg Arg Pro Ser Thr Glu Asp Thr His
 100 105 110
 Glu Val Asp Ser Lys Ala Ala Leu Ile Pro Val Cys Arg Phe Gln Leu
 115 120 125
 Asn Arg Tyr Ile Leu Leu Asn Thr Leu Asn Phe Phe Arg
 130 135 140

<210> 3
 <211> 739
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> unsure
 <222> (5)...(5)
 <223> UNKNOWN

<221> unsure
 <222> (21)...(22)
 <223> UNKNOWN

<221> unsure
 <222> (29)...(29)
 <223> UNKNOWN

<400> 3
 tcgantaggg gtcttcacc nncatactng gatgatgggt ggtgaagtct atgcatacga 60
 aattgatgtg tgtgcaaacg attctgttat ccctcaaatac tgtggctctg ggacgtgggt 120
 gactccattt cttcaagcag tctacctctt tgwacagtat atcattatgg ttaattcttct 180
 tattgcattt ytcaacaatg tgtatttaca agtgaaggca atttccaata ttgyatggaa 240
 gtaccagcgt tatcatttta ttatggctta tcatgagaaa ccagttctgc ctctccact 300
 tatcattctt agccatatag tttctctggt ttgctgcata tgtaagagaa gaaagaaaga 360
 taagacttcc gatggaccaa aacttttctt aacagaagaa gatcaaaaga aacttcatga 420
 ttttgaagag cagtgtgttg aaatgtattt caatgaaaaa gatgacaaat ttcatctctg 480
 gagtgaagag agaattcgtg tcacttttga aagagtggaa cagatgtgca ttcagattaa 540
 agaagttgga gatccgtgtc aactacataa aaagatcatt acaatcatta gattctcaaa 600
 ttggccattt gcaagatctt tcagccctga cggtagatac attaaaaaca ctcaactggcc 660
 aaaagcgtcg gaagctagca aagttcataa tgaaatcaca cgagaactga gcatttccaa 720
 acacttggct caaaacctt 739

<210> 4
 <211> 235
 <212> PRT
 <213> Homo Sapiens

<220>
 <221> UNSURE
 <222> (41)...(41)

-3-

<223> UNKNOWN

<221> UNSURE

<222> (54)...(54)

<223> UNKNOWN

<221> UNSURE

<222> (68)...(68)

<223> UNKNOWN

<400> 4

Met	Met	Val	Gly	Glu	Val	Tyr	Ala	Tyr	Glu	Ile	Asp	Val	Cys	Ala	Asn
1				5					10					15	
Asp	Ser	Val	Ile	Pro	Gln	Ile	Cys	Gly	Pro	Gly	Thr	Trp	Leu	Thr	Pro
			20					25					30		
Phe	Leu	Gln	Ala	Val	Tyr	Leu	Phe	Xaa	Gln	Tyr	Ile	Ile	Met	Val	Asn
		35					40					45			
Leu	Leu	Ile	Ala	Phe	Xaa	Asn	Asn	Val	Tyr	Leu	Gln	Val	Lys	Ala	Ile
		50				55					60				
Ser	Asn	Ile	Xaa	Trp	Lys	Tyr	Gln	Arg	Tyr	His	Phe	Ile	Met	Ala	Tyr
65					70				75					80	
His	Glu	Lys	Pro	Val	Leu	Pro	Pro	Pro	Leu	Ile	Ile	Leu	Ser	His	Ile
				85					90					95	
Val	Ser	Leu	Phe	Cys	Cys	Ile	Cys	Lys	Arg	Arg	Lys	Lys	Asp	Lys	Thr
			100					105					110		
Ser	Asp	Gly	Pro	Lys	Leu	Phe	Leu	Thr	Glu	Glu	Asp	Gln	Lys	Lys	Leu
		115					120					125			
His	Asp	Phe	Glu	Glu	Gln	Cys	Val	Glu	Met	Tyr	Phe	Asn	Glu	Lys	Asp
		130				135					140				
Asp	Lys	Phe	His	Ser	Gly	Ser	Glu	Glu	Arg	Ile	Arg	Val	Thr	Phe	Glu
145					150				155						160
Arg	Val	Glu	Gln	Met	Cys	Ile	Gln	Ile	Lys	Glu	Val	Gly	Asp	Pro	Cys
			165					170					175		
Gln	Leu	His	Lys	Lys	Ile	Ile	Thr	Ile	Ile	Arg	Phe	Ser	Asn	Trp	Pro
			180					185					190		
Phe	Ala	Arg	Ser	Phe	Ser	Pro	Asp	Gly	Arg	Tyr	Ile	Lys	Asn	Thr	His
		195				200						205			
Trp	Pro	Lys	Ala	Ser	Glu	Ala	Ser	Lys	Val	His	Asn	Glu	Ile	Thr	Arg
	210					215					220				
Glu	Leu	Ser	Ile	Ser	Lys	His	Leu	Ala	Gln	Asn					
225					230					235					

<210> 5

<211> 1579

<212> DNA

<213> Homo Sapiens

<220>

<221> unsure

<222> (368)...(368)

<223> g or c

<221> unsure

<222> (372)...(372)

<223> g or c

<221> unsure

<222> (374)...(374)

<223> g or a

<221> unsure

-4-

<222> (375)...(375)

<223> g or c

<221> unsure

<222> (387)...(387)

<221> unsure

<222> (482)...(482)

<400> 5

acgtcgccgtg	caggtaccgg	tccggaattc	ccgggtcgac	ccacgcgtcc	ggcatgggtg	60
tgtaaatata	cttagctcct	ctcttcctca	aggtgatctt	gaaagtaata	atccttttca	120
ttgtaaatatt	ttaatgaaag	atgacaaaaga	tccccagtg	aatatatattg	gtcaagactt	180
acctgcagta	ccccagagaa	aagaatttaa	ttttccagag	gctgggttcct	cttctgggtgc	240
cttattccca	agtgtgtgtt	cccctccaga	actgcgacag	agactacatg	gggtagaact	300
cttaaaaaata	tttaataaaa	atcaaaaatt	aggcagttca	tctactagca	taccacatct	360
glcatccscn	csarscanat	tttttgntag	tacaccatct	cagccaagtt	gcaaaaagcca	420
cttggaact	ggaaccaaaag	atcaagaaac	tgtttgctct	aaagctacag	aaggagataa	480
tncagaattt	ggagcatttg	taggacacag	agatagcatg	gattttacaga	ggtttaaaga	540
aacatcaaac	aagataaaaa	tactatccaa	taacaatact	tctgaaaaca	ctttgaaacg	600
agtgagttct	cttgctggat	ttactgactg	tcacagaact	tccattcctg	ttcattcaaa	660
acaagaaaaa	atcagtagaa	ggccatctac	cgaagacact	catgaagtag	attccaaagc	720
agctttaata	ccggtttgta	gatttcaact	aaacagatat	atattattaa	atacattaaa	780
cttttttaga	taagatctac	aaagtgggtga	tatttgggac	tatatcaaaa	attcaaaaaa	840
atttttctta	agaaaactga	ctttagcata	gtagcagtta	cagaaaagtt	tcttacagtg	900
aatagtcagg	aattttaaag	aaaaatttat	gcagaataaa	ggcaggaatc	tctttttggt	960
tgaattgaag	ctaattatat	gaactcattt	ccagctaact	gcgataatga	ttgattttgc	1020
aaattccctt	taaaagcaca	cactgacaag	acaaaaagct	caggaaaagg	cagaaaaatt	1080
actcctttat	aatcaagtat	tatatataag	tcagtgtctca	taattttgct	caagaaaata	1140
ttgacttaca	ttcatatata	tctgttctgg	catagagaga	ttatgttggt	aaaatcatgt	1200
tattgaaaaa	agttattttca	gtggggaaag	aggttagtta	acaaagagat	tcacagtaac	1260
aaatcctcct	ttctggaggg	actcttcctg	accctgagct	gcacaacttt	gcaacaaatt	1320
aaagcctaac	cgaagatgac	ctcacaatgg	caatttagaa	ctcatgggag	tcaacttaca	1380
taaacgggtat	ttgattttctg	ataagatagt	ggaattattg	gttatagatg	acaaaataag	1440
tatgttttaa	gtgatgatgg	acataaaaaa	gttttaata	taaaacatga	gaaaagaagg	1500
agatactatt	caaaaagact	ggcaaatttg	aaaaactaga	aataaaaaaa	aaaaaaaaaa	1560
atgagcggcc	gcaagcttt					1579

<210> 6

<211> 243

<212> PRT

<213> Homo Sapiens

<220>

<221> UNSURE

<222> (103)...(105)

<223> UNKNOWN

<221> UNSURE

<222> (109)...(109)

<223> UNKNOWN

<221> UNSURE

<222> (141)...(141)

<223> UNKNOWN

<400> 6

Val	Asn	Thr	Leu	Ser	Ser	Ser	Leu	Pro	Gln	Gly	Asp	Leu	Glu	Ser	Asn
1				5					10					15	
Asn	Pro	Phe	His	Cys	Asn	Ile	Leu	Met	Lys	Asp	Asp	Lys	Asp	Pro	Gln
			20					25						30	

-5-

Cys	Asn	Ile	Phe	Gly	Gln	Asp	Leu	Pro	Ala	Val	Pro	Gln	Arg	Lys	Glu
	35						40					45			
Phe	Asn	Phe	Pro	Glu	Ala	Gly	Ser	Ser	Ser	Gly	Ala	Leu	Phe	Pro	Ser
	50					55					60				
Ala	Val	Ser	Pro	Pro	Glu	Leu	Arg	Gln	Arg	Leu	His	Gly	Val	Glu	Leu
65					70					75				80	
Leu	Lys	Ile	Phe	Asn	Lys	Asn	Gln	Lys	Leu	Gly	Ser	Ser	Ser	Thr	Ser
			85						90					95	
Ile	Pro	His	Leu	Ser	Ser	Xaa	Xaa	Xaa	Lys	Phe	Phe	Xaa	Ser	Thr	Pro
			100					105						110	
Ser	Gln	Pro	Ser	Cys	Lys	Ser	His	Leu	Glu	Thr	Gly	Thr	Lys	Asp	Gln
	115						120					125			
Glu	Thr	Val	Cys	Ser	Lys	Ala	Thr	Glu	Gly	Asp	Asn	Xaa	Glu	Phe	Gly
	130					135					140				
Ala	Phe	Val	Gly	His	Arg	Asp	Ser	Met	Asp	Leu	Gln	Arg	Phe	Lys	Glu
145					150				155						160
Thr	Ser	Asn	Lys	Ile	Lys	Ile	Leu	Ser	Asn	Asn	Asn	Thr	Ser	Glu	Asn
			165					170						175	
Thr	Leu	Lys	Arg	Val	Ser	Ser	Leu	Ala	Gly	Phe	Thr	Asp	Cys	His	Arg
			180				185					190			
Thr	Ser	Ile	Pro	Val	His	Ser	Lys	Gln	Glu	Lys	Ile	Ser	Arg	Arg	Pro
	195						200					205			
Ser	Thr	Glu	Asp	Thr	His	Glu	Val	Asp	Ser	Lys	Ala	Ala	Leu	Ile	Pro
	210					215					220				
Val	Cys	Arg	Phe	Gln	Leu	Asn	Arg	Tyr	Ile	Leu	Leu	Asn	Thr	Leu	Asn
225					230					235					240
Phe	Phe	Arg													

<210> 7
 <211> 3532
 <212> DNA
 <213> Mus Musculus

<220>
 <221> unsure
 <222> (2420)... (2420)
 <223> unknown

<221> unsure
 <222> (2434)... (2434)
 <223> unknown

<221> unsure
 <222> (2461)... (2461)
 <223> unknown

<221> unsure
 <222> (2466)... (2466)
 <223> unknown

<221> unsure
 <222> (2470)... (2470)
 <223> unknown

<400> 7	
attatggctt atcatgaaaa accagtcctg cctcctcctc ttatcatcct cagccatata	60
gtttcactgt ttgtctgtgt atgcaaaaga agaaagaaag ataagacttc cgaatgggcca	120
aaacttttct taacagaaga agatcaaaag aaactccatg attttgaaga gcagtgtgtt	180
gagatgtact ttgatgagaa agatgacaaa ttcaattctg ggagtgaaga gagaatccgg	240
gtcacttttg aaagagtggg gcagatgagc attcagatta aagaagttgg agatcgtgtc	300

-6-

aactacataa	aaagatcatt	acagtcttta	gattctcaaa	ttggtcatct	gcaagatctc	360
tcagccctaa	cagtagatac	attgaaaaca	cttacagccc	agaaagcttc	agaagctagt	420
aaagtgcaca	atgagatcac	acgagaattg	agtattttcca	aacacttggc	tcagaatctt	480
attgatgatg	ttcctgtaag	acctttgtgg	gaagaacctt	gtgctgtaaa	cacactgagt	540
tcctctcttc	ctcaagggtg	tcgggaaagt	aataatcctt	ttctttgtaa	tatttttatg	600
aaagatgaaa	aagaccccca	atataatctg	tttgacaag	atttgcccg	gatacccccag	660
agaaaagaat	tcaacattcc	agaggctggt	tcctcctgtg	gtgccttatt	cccaagtgtc	720
gtttctcccc	cagaattacg	acagagacga	catggggtag	aaatgttaaa	aatattttaat	780
aaaaatcaaa	aattaggcag	ttcaccta	agttcaccac	atatgtcctc	cccaccaacc	840
aaattttctg	tgagtacccc	atcccagcca	agttgcaaaa	gtcacttgga	atccacaacc	900
aaagatcaag	aacccatttt	ctataaagct	gcagaagggg	ataacataga	atttgaggca	960
tttggtgggac	acagagatag	tatggactta	cagagggtta	aagaaacatc	aaacaaaata	1020
agagaactgt	tatctaata	tactcctgaa	aacactctga	aacatgtggg	tgctgtctgga	1080
tatagtgaat	gttgtaagac	ttctacttct	cttcactcgg	tgcaagcaga	aagctgtagt	1140
agaagagcgt	cgacggaaga	ctctccagaa	gtcgattcta	aagcagcttt	gttacgggat	1200
tggttacgag	atagaccatc	aaacagagaa	atgccatctg	aaggaggaac	attaaatggt	1260
cttgcttctc	catttaagc	cgttttggat	acaaattact	attattcagc	tgtggaaaga	1320
aataacctga	tgagggtgtc	acagagtatt	cccttcggtc	ctgtacctcc	acgaggcgag	1380
cctgtcacag	tgtaccgtct	ggaggagagt	tctcccagta	tactgaataa	cagcatgtct	1440
tcatggtctc	agctaggcct	ctgtgccaaa	attgagtttt	taagtaaaga	ggaaatggaa	1500
ggtggtttac	gaagagcagt	caaagtgtct	tgtacctggg	cagagcacga	tatcctgaag	1560
tcagggcac	tctatatcat	taagtcat	cttcctgagg	tgataaacac	atggtcaagc	1620
atttataaag	aagatacgg	tctacatctc	tgtctcagag	aaatacaaca	acagagagca	1680
gcacaaaagc	tcacatttgc	ctttaatcag	atgaaaccca	aatccatacc	atattctcca	1740
aggttccttg	aagttttcct	gttgactgc	cattcagcag	ggcagtgggt	tgctgtagaa	1800
gagtgcata	ctggtgaatt	tagaaaatac	aacaacaata	atggtgatga	aatcattcct	1860
acaaatactc	tagaagagat	catgctagcc	tttagccact	ggacctatga	atataccaga	1920
ggggagttac	tggtacttga	cttacaagga	gtgggagaaa	acttgactga	cccatctgta	1980
ataaaagctg	aagaaaaaag	atcctgtgac	atggtttttg	gccctgccaa	tctaggagaa	2040
gatgcaataa	aaaacttcaa	gagccaaaca	tccactgtaa	ttcttgctgt	cgaaagctta	2100
aacttcccag	atttgaagag	gaatgactac	acgcccttga	taaaattata	tttctcagg	2160
atgagtcac	agatttgaat	cttcaatctg	gaaattccac	caaagaatca	gaagcaacaa	2220
attctgttcg	tctgatgtta	tagtgctgag	tcattggttt	ttgcctacac	ttcacaaaag	2280
tgtaactgtc	agttttcctt	tcgggggaat	tgatgatata	ggaagatgtg	tgcaaaatga	2340
gcttgctggc	cccacacata	gtctagaggt	aatgttctca	ttgaaaaacg	cctggagggtg	2400
gaggctgcag	atgccagtg	aaagtgtctg	ctgncagaga	gtcagtgctc	tcgggctggt	2460
naaggncggn	acccttgctg	ctgagagtgg	tggttctctt	cacctgggtg	aggaccatta	2520
accaaagtca	agtcttcaga	tttgattggc	tgctcagtc	cagccatttc	agctaaggaa	2580
actaaattgc	gcagcttttt	aaatggctga	agtcttctc	agtttgtgct	ctatgataat	2640
gatgttagct	ctcaactagg	tgtttggg	cacgggagaa	ctactcctta	caattttgct	2700
tcacaggcat	gttacaaagc	ctgcactgaa	aaccgtttgt	cttccctctc	ttcctccctc	2760
ttttccctgt	agtattgagg	atcaaacc	gggcctcatg	aagaccattt	tctaagagac	2820
attttattta	agaatcaact	atagagtcta	tgtttatgga	tacagccagt	ttttgttaaa	2880
caaaacctga	attgtgcaaa	agggtttttt	aacatttatc	aatgttaagt	aaaagaaagc	2940
catgataaat	aagaattaac	tcactgttca	atgggtgttt	cctgtgagga	aggttacagt	3000
tgtaacagcc	tgcaagtgtc	tacatctcca	aagattttaca	gacttagtgt	atcaaatcag	3060
agtgtcatgt	gagctctcac	attgaaaatt	ctataggaat	gtgtcaatgt	gaattctatt	3120
tctgggtact	aagaaatcag	ttgttggtt	atccttatac	agtataggga	gatacacaata	3180
caactttatg	ccaataaaat	ctaactta	tgcccagata	tttttgcata	tttagcaaca	3240
agaaaagctt	atcatttgac	tcaagtttta	tgctttctct	ttcttttcat	ttcctaggtta	3300
ctaattttta	tttttatgtg	gaaggagcag	tgtaaaagctt	acttgatttc	aatagtgtat	3360
ctcatagata	cagacaaggc	cgagagata	agctgttaaa	tagtgtttaa	tgttgatgtg	3420
gagagaaagg	tgtattactt	aaaaatacta	taccatatac	gttttgtata	tcattaaatc	3480
tttaaaagaa	attaaattta	ttcttgttta	aaaaaaaaaa	aaaaaaaaaa	aa	3532

<210> 8

<211> 475

<212> PRT

<213> Mus Musculus

<400> 8

-7-

Ile	Met	Ala	Tyr	His	Glu	Lys	Pro	Val	Leu	Pro	Pro	Pro	Leu	Ile	Ile
1				5					10					15	
Leu	Ser	His	Ile	Val	Ser	Leu	Phe	Cys	Cys	Val	Cys	Lys	Arg	Arg	Lys
		20						25					30		
Lys	Asp	Lys	Thr	Ser	Asp	Gly	Pro	Lys	Leu	Phe	Leu	Thr	Glu	Glu	Asp
		35					40					45			
Gln	Lys	Lys	Leu	His	Asp	Phe	Glu	Glu	Gln	Cys	Val	Glu	Met	Tyr	Phe
	50					55					60				
Asp	Glu	Lys	Asp	Asp	Lys	Phe	Asn	Ser	Gly	Ser	Glu	Glu	Arg	Ile	Arg
65					70					75				80	
Val	Thr	Phe	Glu	Arg	Val	Glu	Gln	Met	Ser	Ile	Gln	Ile	Lys	Glu	Val
				85					90					95	
Gly	Asp	Arg	Val	Asn	Tyr	Ile	Lys	Arg	Ser	Leu	Gln	Ser	Leu	Asp	Ser
			100					105					110		
Gln	Ile	Gly	His	Leu	Gln	Asp	Leu	Ser	Ala	Leu	Thr	Val	Asp	Thr	Leu
		115					120					125			
Lys	Thr	Leu	Thr	Ala	Gln	Lys	Ala	Ser	Glu	Ala	Ser	Lys	Val	His	Asn
	130					135					140				
Glu	Ile	Thr	Arg	Glu	Leu	Ser	Ile	Ser	Lys	His	Leu	Ala	Gln	Asn	Leu
145					150					155				160	
Ile	Asp	Asp	Val	Pro	Val	Arg	Pro	Leu	Trp	Glu	Glu	Pro	Ser	Ala	Val
				165					170					175	
Asn	Thr	Leu	Ser	Ser	Ser	Leu	Pro	Gln	Gly	Asp	Arg	Glu	Ser	Asn	Asn
		180						185					190		
Pro	Phe	Leu	Cys	Asn	Ile	Phe	Met	Lys	Asp	Glu	Lys	Asp	Pro	Gln	Tyr
		195					200					205			
Asn	Leu	Phe	Gly	Gln	Asp	Leu	Pro	Val	Ile	Pro	Gln	Arg	Lys	Glu	Phe
	210					215					220				
Asn	Ile	Pro	Glu	Ala	Gly	Ser	Ser	Cys	Gly	Ala	Leu	Phe	Pro	Ser	Ala
225					230					235				240	
Val	Ser	Pro	Pro	Glu	Leu	Arg	Gln	Arg	Arg	His	Gly	Val	Glu	Met	Leu
				245					250					255	
Lys	Ile	Phe	Asn	Lys	Asn	Gln	Lys	Leu	Gly	Ser	Ser	Pro	Asn	Ser	Ser
			260					265					270		
Pro	His	Met	Ser	Ser	Pro	Pro	Thr	Lys	Phe	Ser	Val	Ser	Thr	Pro	Ser
		275					280					285			
Gln	Pro	Ser	Cys	Lys	Ser	His	Leu	Glu	Ser	Thr	Thr	Lys	Asp	Gln	Glu
	290					295					300				
Pro	Ile	Phe	Tyr	Lys	Ala	Ala	Glu	Gly	Asp	Asn	Ile	Glu	Phe	Gly	Ala
305					310					315					320
Phe	Val	Gly	His	Arg	Asp	Ser	Met	Asp	Leu	Gln	Arg	Phe	Lys	Glu	Thr
				325					330					335	
Ser	Asn	Lys	Ile	Arg	Glu	Leu	Leu	Ser	Asn	Asp	Thr	Pro	Glu	Asn	Thr
			340					345					350		
Leu	Lys	His	Val	Gly	Ala	Ala	Gly	Tyr	Ser	Glu	Cys	Cys	Lys	Thr	Ser
		355					360					365			
Thr	Ser	Leu	His	Ser	Val	Gln	Ala	Glu	Ser	Cys	Ser	Arg	Arg	Ala	Ser
	370					375					380				
Thr	Glu	Asp	Ser	Pro	Glu	Val	Asp	Ser	Lys	Ala	Ala	Leu	Leu	Pro	Asp
385					390					395				400	
Trp	Leu	Arg	Asp	Arg	Pro	Ser	Asn	Arg	Glu	Met	Pro	Ser	Glu	Gly	Gly
				405					410					415	
Thr	Leu	Asn	Gly	Leu	Ala	Ser	Pro	Phe	Lys	Pro	Val	Leu	Asp	Thr	Asn
			420					425					430		
Tyr	Tyr	Tyr	Ser	Ala	Val	Glu	Arg	Asn	Asn	Leu	Met	Arg	Leu	Ser	Gln
		435					440					445			
Ser	Ile	Pro	Phe	Val	Pro	Val	Pro	Pro	Arg	Gly	Glu	Pro	Val	Thr	Val
		450				455					460				
Tyr	Pro	Ser	Gly	Gly	Arg	Val	Leu	Pro	Val	Tyr					
465					470					475					

-8-

<210> 9
 <211> 5433
 <212> DNA
 <213> Mus Musculus

 <220>
 <221> unsure
 <222> (5094) ... (5094)
 <223> unknown

<400> 9
 ggctgaaaga gcctgagctg tgcctctcca ttccactgct gtggcaggggt cagaaatctt 60
 ggatagagaa aaccttttgc aaacgggaat gtatctttgt aattcctagc acgaaagact 120
 ctaacagggtg ttgctgtggc cagttcacca accagcatat cccccctctg ccaagtgcga 180
 caccagcaa aaatgaagag gaaagcaaac aggtggagac tcagcctgag aaatggtctg 240
 ttgccaagca caccagagc taccacaacag attcctatgg agttcttgaa ttccaggggtg 300
 gcggatattc caataaagcc atgtatatcc gtgtatccta tgacaccaag ccagactcac 360
 tgctccatct catggtgaaa gattggcagc tggaaactcc caagctctta atatctgtgc 420
 atggaggcct ccagaacttt gagatgcagc ccaagctgaa acaagtcttt gggaaaggcc 480
 tgatcaaggc tgctatgacc accggggcct ggatcttcac cgggggtgtc agcacagggtg 540
 ttatcagcca cgtaggggat gccttgaaag accactcctc caagtccaga ggccgggttt 600
 gtgctatagg aattgctcca tggggcatcg tggagaataa ggaagacctg gttggaaagg 660
 atgtaacaag agtgaccag accatgtcca accctctaag taagctctct gtgctcaaca 720
 actcccacac ccacttcac cttgctgaca atggcaccct gggcaagtat ggcgccgagg 780
 tgaagctgag aaggctgtg gaaaagcaca tctcctcca gaagatcaac acaagactgg 840
 ggcagggcgt gccctcgtg ggtctcgtgg tggagggggg ccctaactgt gtgtccatcg 900
 tcttggaaata cctgcaagaa gagcctccca tccctgtggt gatttgtgat ggcagcggac 960
 gtgctcggga catcctgtcc tttgcgcaca agtactgtga agaaggcggga ataataaatg 1020
 agtccctcag ggagcagctt ctagttagca ttcagaaaac atttaattat aataaggcac 1080
 aatcacatca gctgtttgca attataatgg agtgcagtaa gaagaaagaa ctctgactg 1140
 tgttcagaat ggggttctgag ggccagcagg acatcgagat ggcaatttta actgccctgc 1200
 tgaaaggaac aaacgtatct gctccagatc agctgagctt ggcactgggt tggaaaccgcg 1260
 tggacatagc acgaagccag atctttgtct ttgggcccc ctaggacgcc ctgggaagcc 1320
 tggcaccccc gacggacagc aaagccacgg agaaggagaa gaagccacc ctggccacca 1380
 ccaagggagg aagaggaaaa gggaaaggca agaagaaagg gaaagtgaag gaggaagtgg 1440
 aggaagaaac tgaccccccg aagatagagc tgctgaactg ggtgaatgct ttggagcaag 1500
 cgatgctaga tgcttttagt ttagatcgtg tcgactttgt gaagctcctg attgaaaacg 1560
 gagtgaacat gcaacacttt ctgaccattc cgaggctgga ggagctctat aacacaagac 1620
 tgggtccacc aaacacactt catctgctgg tgagggatgt gaaaaagagc aaccttccgc 1680
 ctgattacca catcagcctc atagacatcg ggctcgtgct ggagtacctc atgggaggag 1740
 cctaccgctg caactacact cggaaaaact ttcggaccct ttacaacaac ttgtttggac 1800
 caaagaggcc taaagctctt aaacttctgg gaatggaaga tgatgagcct ccagctaaag 1860
 ggaagaaaaa aaaaaaaaag aaaaaggagg aagagatcga cattgatgtg gacgacctg 1920
 ccgtgagtcg gttccagtat ccttccacg agctgatggg gtgggcagtg ctgatgaaac 1980
 gccagaaaat ggcagtgttc ctctggcagc gagggaaga gagcatggcc aaggccctgg 2040
 tggcctgcaa gctctacaag gccatggccc acgagtcctc cgagagtgat ctggtggatg 2100
 acatctccca ggacttgatg aacaattcca aagacttcgg ccagcttgct ttggagttat 2160
 tagaccagtc ctataagcat gacgagcaga tcgctatgaa actcctgacc tacgagctga 2220
 aaaactggag caactcgacc tgctcacaac tggccgtggc agccaaacac cgggacttca 2280
 ttgctcacac ctgcagccag atgctgctga ccgatatgtg gatgggaaga ctgaggatgc 2340
 ggaagaaccc cggcctgaag gttatcatgg ggattcttct accccccacc atcttgtttt 2400
 tggaaatttc cacatatgat gatttctcgt atcaaacatc caaggaaaac gaggatggca 2460
 aagaaaaaga agaggaaaat acggatgcaa atgcagatgc tggctcaaga aagggggatg 2520
 aggagaacga gcataaaaaa cagagaagta ttcccatcgg aacaaagatc tgtgaattct 2580
 ataacgcgcc cattgtcaag ttctggtttt acacaatatc atacttgggc tacctgctgc 2640
 tgtttaacta cgctacactg gtgcggatgg atggctggcc gtcctccag gatggatcg 2700
 tcatctccta catcgtgagc ctggcgtag agaagatacg agagatcctc atgtcagaac 2760
 caggcaaaact cagccagaaa atcaaagttt ggcttcagga gtactggaac atcacagatc 2820
 tcgtggccat ttccacattc atgattggag caattcttcg cctacagaa cagccctaca 2880
 tgggctatgg ccgggtgatc tactgtgtgg atatcatctt ctggtacatc cgtgtcctgg 2940
 acatcttttg tgtcaacaag tatctggggc catacgtgat gatgattgga aagatgatga 3000

-9-

tcgacatgct	gtactttgtg	gtcatcatgc	tggtcgtgct	catgagtttc	ggagtagccc	3060
gtcaagccat	tctgcatcca	gaggagaagc	cctcttgga	actggcccga	aacatcttct	3120
acatgcccta	ctggatgac	tatggagagg	tgtttgaga	ccagatagac	ctctacgcca	3180
tggaattaa	tcctccttgt	ggtgagaacc	tatatgatga	ggagggcaag	cggcttcctc	3240
cctgtatccc	cggcgccctg	ctcactccag	cactcatggc	gtgctatcta	ctggctcgcca	3300
acatcctgct	ggtgaacctg	ctgattgctg	tgttcaacaa	tactttcttt	gaagtaaaat	3360
caatatccaa	ccaggtgtgg	aagttccagc	gatatcagct	gattatgaca	tttcatgaca	3420
ggccagtcc	gccccaccg	atgatcattt	taagccacat	ctacatcatc	attatgcgtc	3480
tcagcggccg	ctgcaggaaa	aagagagaag	gggaccaaga	ggaacgggat	cgtggattga	3540
agctcttcc	tagcgagag	gagctaaaga	ggctgcatga	gttcgaggag	cagtgcgtgc	3600
aggagcactt	ccgggagaag	gaggatgagc	agcagtcgtc	cagcgacgag	cgcacccggg	3660
tcactttctga	aagagttgaa	aatatgtcaa	tgaggttgga	agaaatcaat	gaaagagaaa	3720
cttttatgaa	aacttccctg	cagactgttg	accttcgact	tgctcagcta	gaagaattat	3780
ctaacagaat	ggtgaatgct	cttgaaaatc	ttgcgggaat	cgacaggtct	gacctgatcc	3840
aggcacggtc	ccgggcttct	tctgaatgtg	aggcaacgta	tcttctccgg	caaagcagca	3900
tcaatagcgc	tgatggctac	agcttgtatc	gatatcattt	taacggagaa	yagttattat	3960
ttgaggatac	atctctctcc	acgtcaccag	ggacaggagt	caggaaaaaa	acctgttcc	4020
tcctgtataaa	ggaagagaag	gacgtgaaaa	cgcacctagt	cccagaatgt	cagaacagtc	4080
ttcacctttc	actgggcaca	agcacatcag	caacccaga	tggcagtcac	cttgcaagt	4140
atgacttaaa	gaacgctgaa	gagtcaaaat	taggtccaga	tattgggatt	tcaaaggag	4200
atgatgaaag	acagacagac	tctaaaaaag	aagaaactat	ttccccaagt	ttaaataaaa	4260
cagatgtgat	acatggacag	gacaaatcag	atgttcaaaa	cactcagcta	acagtggaaa	4320
cgacaaatat	agaaggcact	atttcctatc	ccctggaaga	aacaaaaatt	acacgctatt	4380
tccccgatga	aacgatcaat	gcttgtaaaa	caatgaagtc	cagaagcttc	gtctattccc	4440
ggggaagaaa	gctggctcgg	ggggttaacc	aggatgtaga	gtacagttca	atcacggacc	4500
agcaattgac	gacggaatgg	caatgccaaag	ttcaaaagat	cacgcgctct	catagcacag	4560
atattcctta	cattgtgtcg	gaagctgcag	tgcaagctga	gcaaaaagag	cagtttgcag	4620
atatgcaaga	tgaacacccat	gtcgtgaag	caattcctcg	aatccctcgc	ttgtccctaa	4680
ccattactga	cagaaatggg	atggaaaact	tactgtctgt	gaagccagat	caaacttttg	4740
gattcccac	tctcagggtca	aaaagtttac	atggacatcc	taggaatgtg	aaatccattc	4800
agggaaagtt	agacagatct	ggacatgcca	gtagtgtaa	cagcttagta	attgtgtctg	4860
gaatgcagac	agaagaaaaa	aaggttaaga	aagagaaagc	ttccacagaa	actgaatgct	4920
agttctgttt	gtttctttta	tttttttttt	taacagtcag	aaaccacta	atgggtgtca	4980
tcttgcccca	tcctaaacac	atmtccaatt	tcctaaaaac	attttccctt	aaaaaatgtt	5040
ggaaattcag	acttgattta	caatttaatg	cactaaaagt	agtattttgt	tagnatatgt	5100
tagtaggctt	agttttttca	gttgtagtag	tatcaaatga	aagtgatgat	actgtaacga	5160
agataaattg	gctaatacag	atacaagatt	atacaatctc	tttattactg	agggccacca	5220
aatagcctag	gaagtgcctt	cgagcactga	agtcaccatt	aggtcactca	agaagtaagc	5280
aactagctgg	gcacagtggc	tcatgcctgt	aatcctagca	ctttgggagg	ccaaggcaga	5340
aagatagctt	gagtcacagga	gtttgagacc	agcctgggca	acatagtgat	accccatctc	5400
ttaaaaaaaa	aaaaaaaaaa	ctgcctctgt	gcc			5433

<210> 10
 <211> 1533
 <212> PRT
 <213> Mus Musculus

<400> 10

Met	Tyr	Ile	Arg	Val	Ser	Tyr	Asp	Thr	Lys	Pro	Asp	Ser	Leu	Leu	His
1				5					10					15	
Leu	Met	Val	Lys	Asp	Trp	Gln	Leu	Glu	Leu	Pro	Lys	Leu	Leu	Ile	Ser
			20					25					30		
Val	His	Gly	Gly	Leu	Gln	Asn	Phe	Glu	Met	Gln	Pro	Lys	Leu	Lys	Gln
		35					40					45			
Val	Phe	Gly	Lys	Gly	Leu	Ile	Lys	Ala	Ala	Met	Thr	Thr	Gly	Ala	Trp
	50					55				60					
Ile	Phe	Thr	Gly	Gly	Val	Ser	Thr	Gly	Val	Ile	Ser	His	Val	Gly	Asp
65					70					75				80	
Ala	Leu	Lys	Asp	His	Ser	Ser	Lys	Ser	Arg	Gly	Arg	Val	Cys	Ala	Ile
				85					90				95		
Gly	Ile	Ala	Pro	Trp	Gly	Ile	Val	Glu	Asn	Lys	Glu	Asp	Leu	Val	Gly

-10-

			100					105					110				
Lys	Asp	Val	Thr	Arg	Val	Tyr	Gln	Thr	Met	Ser	Asn	Pro	Leu	Ser	Lys		
		115					120					125					
Leu	Ser	Val	Leu	Asn	Asn	Ser	His	Thr	His	Phe	Ile	Leu	Ala	Asp	Asn		
		130					135					140					
Gly	Thr	Leu	Gly	Lys	Tyr	Gly	Ala	Glu	Val	Lys	Leu	Arg	Arg	Leu	Leu		
145					150					155					160		
Glu	Lys	His	Ile	Ser	Leu	Gln	Lys	Ile	Asn	Thr	Arg	Leu	Gly	Gln	Gly		
				165					170					175			
Val	Pro	Leu	Val	Gly	Leu	Val	Val	Glu	Gly	Gly	Pro	Asn	Val	Val	Ser		
			180					185					190				
Ile	Val	Leu	Glu	Tyr	Leu	Gln	Glu	Glu	Pro	Pro	Ile	Pro	Val	Val	Ile		
		195					200					205					
Cys	Asp	Gly	Ser	Gly	Arg	Ala	Ser	Asp	Ile	Leu	Ser	Phe	Ala	His	Lys		
	210					215						220					
Tyr	Cys	Glu	Glu	Gly	Gly	Ile	Ile	Asn	Glu	Ser	Leu	Arg	Glu	Gln	Leu		
225					230					235					240		
Leu	Val	Thr	Ile	Gln	Lys	Thr	Phe	Asn	Tyr	Asn	Lys	Ala	Gln	Ser	His		
				245				250						255			
Gln	Leu	Phe	Ala	Ile	Ile	Met	Glu	Cys	Met	Lys	Lys	Lys	Glu	Leu	Val		
			260					265						270			
Thr	Val	Phe	Arg	Met	Gly	Ser	Glu	Gly	Gln	Gln	Asp	Ile	Glu	Met	Ala		
		275					280					285					
Ile	Leu	Thr	Ala	Leu	Leu	Lys	Gly	Thr	Asn	Val	Ser	Ala	Pro	Asp	Gln		
	290					295					300						
Leu	Ser	Leu	Ala	Leu	Ala	Trp	Asn	Arg	Val	Asp	Ile	Ala	Arg	Ser	Gln		
305					310					315					320		
Ile	Phe	Val	Phe	Gly	Pro	His	Trp	Thr	Pro	Leu	Gly	Ser	Leu	Ala	Pro		
				325					330					335			
Pro	Thr	Asp	Ser	Lys	Ala	Thr	Glu	Lys	Glu	Lys	Lys	Pro	Pro	Met	Ala		
			340					345					350				
Thr	Thr	Lys	Gly	Gly	Arg	Gly	Lys	Gly	Lys	Gly	Lys	Lys	Lys	Gly	Lys		
		355					360						365				
Val	Lys	Glu	Glu	Val	Glu	Glu	Glu	Thr	Asp	Pro	Arg	Lys	Ile	Glu	Leu		
	370					375					380						
Leu	Asn	Trp	Val	Asn	Ala	Leu	Glu	Gln	Ala	Met	Leu	Asp	Ala	Leu	Val		
385					390					395					400		
Leu	Asp	Arg	Val	Asp	Phe	Val	Lys	Leu	Leu	Ile	Glu	Asn	Gly	Val	Asn		
				405					410					415			
Met	Gln	His	Phe	Leu	Thr	Ile	Pro	Arg	Leu	Glu	Glu	Leu	Tyr	Asn	Thr		
			420					425					430				
Arg	Leu	Gly	Pro	Pro	Asn	Thr	Leu	His	Leu	Leu	Val	Arg	Asp	Val	Lys		
		435					440					445					
Lys	Ser	Asn	Leu	Pro	Pro	Asp	Tyr	His	Ile	Ser	Leu	Ile	Asp	Ile	Gly		
	450					455					460						
Leu	Val	Leu	Glu	Tyr	Leu	Met	Gly	Gly	Ala	Tyr	Arg	Cys	Asn	Tyr	Thr		
465					470					475					480		
Arg	Lys	Asn	Phe	Arg	Thr	Leu	Tyr	Asn	Asn	Leu	Phe	Gly	Pro	Lys	Arg		
				485					490					495			
Pro	Lys	Ala	Leu	Lys	Leu	Leu	Gly	Met	Glu	Asp	Asp	Glu	Pro	Pro	Ala		
			500					505					510				
Lys	Gly	Lys	Lys	Lys	Lys	Lys	Lys	Lys	Lys	Lys	Glu	Glu	Glu	Ile	Asp	Ile	
		515					520						525				
Asp	Val	Asp	Asp	Pro	Ala	Val	Ser	Arg	Phe	Gln	Tyr	Pro	Phe	His	Glu		
	530					535					540						
Leu	Met	Val	Trp	Ala	Val	Leu	Met	Lys	Arg	Gln	Lys	Met	Ala	Val	Phe		
545					550					555					560		
Leu	Trp	Gln	Arg	Gly	Glu	Glu	Ser	Met	Ala	Lys	Ala	Leu	Val	Ala	Cys		
				565					570					575			
Lys	Leu	Tyr	Lys	Ala	Met	Ala	His	Glu	Ser	Ser	Glu	Ser	Asp	Leu	Val		
			580					585					590				

-11-

Asp	Asp	Ile	Ser	Gln	Asp	Leu	Asp	Asn	Asn	Ser	Lys	Asp	Phe	Gly	Gln		
		595					600					605					
Leu	Ala	Leu	Glu	Leu	Leu	Asp	Gln	Ser	Tyr	Lys	His	Asp	Glu	Gln	Ile		
		610					615					620					
Ala	Met	Lys	Leu	Leu	Thr	Tyr	Glu	Leu	Lys	Asn	Trp	Ser	Asn	Ser	Thr		
625					630						635				640		
Cys	Leu	Lys	Leu	Ala	Val	Ala	Ala	Lys	His	Arg	Asp	Phe	Ile	Ala	His		
				645						650				655			
Thr	Cys	Ser	Gln	Met	Leu	Leu	Thr	Asp	Met	Trp	Met	Gly	Arg	Leu	Arg		
			660					665					670				
Met	Arg	Lys	Asn	Pro	Gly	Leu	Lys	Val	Ile	Met	Gly	Ile	Leu	Leu	Pro		
		675					680					685					
Pro	Thr	Ile	Leu	Phe	Leu	Glu	Phe	Arg	Thr	Tyr	Asp	Asp	Phe	Ser	Tyr		
		690					695				700						
Gln	Thr	Ser	Lys	Glu	Asn	Glu	Asp	Gly	Lys	Glu	Lys	Glu	Glu	Glu	Asn		
705					710						715				720		
Thr	Asp	Ala	Asn	Ala	Asp	Ala	Gly	Ser	Arg	Lys	Gly	Asp	Glu	Glu	Asn		
				725					730					735			
Glu	His	Lys	Lys	Gln	Arg	Ser	Ile	Pro	Ile	Gly	Thr	Lys	Ile	Cys	Glu		
				740					745				750				
Phe	Tyr	Asn	Ala	Pro	Ile	Val	Lys	Phe	Trp	Phe	Tyr	Thr	Ile	Ser	Tyr		
		755					760					765					
Leu	Gly	Tyr	Leu	Leu	Leu	Phe	Asn	Tyr	Val	Ile	Leu	Val	Arg	Met	Asp		
		770					775					780					
Gly	Trp	Pro	Ser	Leu	Gln	Glu	Trp	Ile	Val	Ile	Ser	Tyr	Ile	Val	Ser		
785					790						795				800		
Leu	Ala	Leu	Glu	Lys	Ile	Arg	Glu	Ile	Leu	Met	Ser	Glu	Pro	Gly	Lys		
				805					810					815			
Leu	Ser	Gln	Lys	Ile	Lys	Val	Trp	Leu	Gln	Glu	Tyr	Trp	Asn	Ile	Thr		
			820					825					830				
Asp	Leu	Val	Ala	Ile	Ser	Thr	Phe	Met	Ile	Gly	Ala	Ile	Leu	Arg	Leu		
		835					840					845					
Gln	Asn	Gln	Pro	Tyr	Met	Gly	Tyr	Gly	Arg	Val	Ile	Tyr	Cys	Val	Asp		
		850				855					860						
Ile	Ile	Phe	Trp	Tyr	Ile	Arg	Val	Leu	Asp	Ile	Phe	Gly	Val	Asn	Lys		
865					870					875					880		
Tyr	Leu	Gly	Pro	Tyr	Val	Met	Met	Ile	Gly	Lys	Met	Met	Ile	Asp	Met		
				885					890					895			
Leu	Tyr	Phe	Val	Ile	Met	Leu	Val	Val	Leu	Met	Ser	Phe	Gly	Val			
			900					905					910				
Ala	Arg	Gln	Ala	Ile	Leu	His	Pro	Glu	Glu	Lys	Pro	Ser	Trp	Lys	Leu		
			915				920					925					
Ala	Arg	Asn	Ile	Phe	Tyr	Met	Pro	Tyr	Trp	Met	Ile	Tyr	Gly	Glu	Val		
			930			935					940						
Phe	Ala	Asp	Gln	Ile	Asp	Leu	Tyr	Ala	Met	Glu	Ile	Asn	Pro	Pro	Cys		
945					950					955					960		
Gly	Glu	Asn	Leu	Tyr	Asp	Glu	Glu	Gly	Lys	Arg	Leu	Pro	Pro	Cys	Ile		
				965					970					975			
Pro	Gly	Ala	Trp	Leu	Thr	Pro	Ala	Leu	Met	Ala	Cys	Tyr	Leu	Leu	Val		
			980					985					990				
Ala	Asn	Ile	Leu	Leu	Val	Asn	Leu	Leu	Ile	Ala	Val	Phe	Asn	Asn	Thr		
			995				1000					1005					
Phe	Phe	Glu	Val	Lys	Ser	Ile	Ser	Asn	Gln	Val	Trp	Lys	Phe	Gln	Arg		
		1010				1015					1020						
Tyr	Gln	Leu	Ile	Met	Thr	Phe	His	Asp	Arg	Pro	Val	Leu	Pro	Pro	Pro		
1025					1030					1035					104		
Met	Ile	Ile	Leu	Ser	His	Ile	Tyr	Ile	Ile	Ile	Met	Arg	Leu	Ser	Gly		
				1045					1050					1055			
Arg	Cys	Arg	Lys	Lys	Arg	Glu	Gly	Asp	Gln	Glu	Glu	Arg	Asp	Arg	Gly		
			1060					1065					1070				
Leu	Lys	Leu	Phe	Leu	Ser	Asp	Glu	Glu	Leu	Lys	Arg	Leu	His	Glu	Phe		

-12-

1075					1080					1085					
Glu	Glu	Gln	Cys	Val	Gln	Glu	His	Phe	Arg	Glu	Lys	Glu	Asp	Glu	Gln
1090					1095					1100					
Gln	Ser	Ser	Ser	Asp	Glu	Arg	Ile	Arg	Val	Thr	Ser	Glu	Arg	Val	Glu
1105					1110					1115					112
Asn	Met	Ser	Met	Arg	Leu	Glu	Glu	Ile	Asn	Glu	Arg	Glu	Thr	Phe	Met
				1125					1130					1135	
Lys	Thr	Ser	Leu	Gln	Thr	Val	Asp	Leu	Arg	Leu	Ala	Gln	Leu	Glu	Glu
				1140					1145					1150	
Leu	Ser	Asn	Arg	Met	Val	Asn	Ala	Leu	Glu	Asn	Leu	Ala	Gly	Ile	Asp
				1155					1160					1165	
Arg	Ser	Asp	Leu	Ile	Gln	Ala	Arg	Ser	Arg	Ala	Ser	Ser	Glu	Cys	Glu
				1170					1175					1180	
Ala	Thr	Tyr	Leu	Leu	Arg	Gln	Ser	Ser	Ile	Asn	Ser	Ala	Asp	Gly	Tyr
1185					1190					1195					120
Ser	Leu	Tyr	Arg	Tyr	His	Phe	Asn	Gly	Glu	Glu	Leu	Leu	Phe	Glu	Asp
				1205					1210					1215	
Thr	Ser	Leu	Ser	Thr	Ser	Pro	Gly	Thr	Gly	Val	Arg	Lys	Lys	Thr	Cys
				1220					1225					1230	
Ser	Phe	Arg	Ile	Lys	Glu	Glu	Lys	Asp	Val	Lys	Thr	His	Leu	Val	Pro
				1235					1240					1245	
Glu	Cys	Gln	Asn	Ser	Leu	His	Leu	Ser	Leu	Gly	Thr	Ser	Thr	Ser	Ala
				1250					1255					1260	
Thr	Pro	Asp	Gly	Ser	His	Leu	Ala	Val	Asp	Asp	Leu	Lys	Asn	Ala	Glu
1265					1270					1275					128
Glu	Ser	Lys	Leu	Gly	Pro	Asp	Ile	Gly	Ile	Ser	Lys	Glu	Asp	Asp	Glu
				1285					1290					1295	
Arg	Gln	Thr	Asp	Ser	Lys	Lys	Glu	Glu	Thr	Ile	Ser	Pro	Ser	Leu	Asn
				1300					1305					1310	
Lys	Thr	Asp	Val	Ile	His	Gly	Gln	Asp	Lys	Ser	Asp	Val	Gln	Asn	Thr
				1315					1320					1325	
Gln	Leu	Thr	Val	Glu	Thr	Thr	Asn	Ile	Glu	Gly	Thr	Ile	Ser	Tyr	Pro
				1330					1335					1340	
Leu	Glu	Glu	Thr	Lys	Ile	Thr	Arg	Tyr	Phe	Pro	Asp	Glu	Thr	Ile	Asn
1345					1350					1355					136
Ala	Cys	Lys	Thr	Met	Lys	Ser	Arg	Ser	Phe	Val	Tyr	Ser	Arg	Gly	Arg
				1365					1370					1375	
Lys	Leu	Val	Gly	Gly	Val	Asn	Gln	Asp	Val	Glu	Tyr	Ser	Ser	Ile	Thr
				1380					1385					1390	
Asp	Gln	Gln	Leu	Thr	Thr	Glu	Trp	Gln	Cys	Gln	Val	Gln	Lys	Ile	Thr
				1395					1400					1405	
Arg	Ser	His	Ser	Thr	Asp	Ile	Pro	Tyr	Ile	Val	Ser	Glu	Ala	Ala	Val
				1410					1415					1420	
Gln	Ala	Glu	Gln	Lys	Glu	Gln	Phe	Ala	Asp	Met	Gln	Asp	Glu	His	His
1425					1430					1435					144
Val	Ala	Glu	Ala	Ile	Pro	Arg	Ile	Pro	Arg	Leu	Ser	Leu	Thr	Ile	Thr
				1445					1450					1455	
Asp	Arg	Asn	Gly	Met	Glu	Asn	Leu	Leu	Ser	Val	Lys	Pro	Asp	Gln	Thr
				1460					1465					1470	
Leu	Gly	Phe	Pro	Ser	Leu	Arg	Ser	Lys	Ser	Leu	His	Gly	His	Pro	Arg
				1475					1480					1485	
Asn	Val	Lys	Ser	Ile	Gln	Gly	Lys	Leu	Asp	Arg	Ser	Gly	His	Ala	Ser
				1490					1495					1500	
Ser	Val	Ser	Ser	Leu	Val	Ile	Val	Ser	Gly	Met	Thr	Ala	Glu	Glu	Lys
1505					1510					1515					152
Lys	Val	Lys	Lys	Glu	Lys	Ala	Ser	Thr	Glu	Thr	Glu	Cys			
				1525					1530						

<210> 11
 <211> 6220
 <212> DNA

<213> Homo Sapiens

<400> 11

tgtgcagaat	tgtacagttg	cgaaaccatg	tcgctggcag	ctggtgctgg	cggtggagac	60
ttccctgtgc	ggtgctcagt	gcatctgcac	ccgtggggga	gggagctctt	tctctggccc	120
tgcagtcacc	tgaggttgtt	accattatga	acggccgctg	ggacccccgc	atgtgcatgt	180
actccccag	agtgtccggg	ggccccagcc	aagggacaca	tctcacgcag	ctgggaacat	240
gtgcaggctg	atgaagagaa	ccggatgagg	gcttcacatg	aggaagcatg	tggccaggtc	300
ctctcagaac	atcagcctca	tcttcctgtc	tctgatctat	ttcaccaacc	accccatgtg	360
tctctagaac	cccagtgtag	cgagctggag	agaggactgt	cctgagggca	gcaggcctgg	420
ttgcagctgg	cgtgggggtc	tcagaatgga	gccctcagcc	ctgaggaaag	ctggctcgga	480
gcaggaggag	ggcttttgagg	ggctgcccag	aagggctact	gacctgggga	tggctcccaa	540
tctccggcgc	agcaacagca	gcctcttcaa	gagctggagg	ctacagtgcc	ccttcggcaa	600
caatgacaag	caagaaagcc	tcagttcgtg	gaftcctgaa	aacatcaaga	agaaagaatg	660
cgtgtatatt	gtggaaagtt	ccaaactgtc	tgatgctggg	aaggtggtgt	gtcagtgtgg	720
ctacacgcat	gagcagcact	tggaggaggc	taccaagccc	cacaccttcc	agggcacaca	780
gtgggaccca	aagaaacatg	tccaggagat	gccaaccgat	gcctttggcg	acatcgtctt	840
cacgggcctg	agccagaagg	tgaaaaagta	cgtccgagtc	tcccaggaca	cgccctccag	900
cgtgatctac	cacctcatga	cccagcactg	ggggtggagc	gtccccaatc	tcttgatctc	960
ggtgaccggg	ggggccaaga	acttcaacat	gaagccgcgg	ctgaagagca	ttttccgagc	1020
aggcctggtc	aaggtggctc	agaccacagg	ggcctggatc	atcacagggg	ggtcccacac	1080
cggcgtcatg	aagcaggtag	gcgaggcggt	gcgggacttc	agcctgagca	gcagctacaa	1140
ggaaggcgag	ctcatcacca	tcggagtcgc	cacctggggc	actgtccacc	gccgcgaggg	1200
cctgatccat	cccacgggca	gcttccccgc	cgagtacata	ctggatgagg	atggccaagg	1260
gaacctgacc	tgcttagaca	gcaaccactc	tcacttcact	ctcgtggacg	acgggaccca	1320
cggccagtac	ggggtggaga	ttcctctgag	gaccaggctg	gagaagttca	tatcggagca	1380
gaccaaggaa	agaggagggtg	tggccatcaa	gatccccatc	gtgtgctgtg	tgctggaggg	1440
cggcccgggc	acgttgca	ccatcgacaa	cgccaccacc	aacggcaccc	cctgtgtggt	1500
tgtggagggg	tcgggcccgc	tggccgacgt	cattgcccag	gtggccaacc	tgctgtctc	1560
ggacatcact	atctccctga	tccagcagaa	actgagcgtg	ttcttccagg	agatgtttga	1620
gaccttcacg	gaaagcagga	ttgtcgagtg	gacaaaaaag	atccaagata	ttgtccggag	1680
gcggcagctg	ctgactgtct	tccgggaagg	caaggatggt	cagcaggacg	tggatgtggc	1740
catcttgcat	gccttgctga	aagcctcacg	gaaccaagac	cactttggcc	acgagaactg	1800
ggaccaccag	ctgaaactgg	cagtggcatg	gaatcgctg	gacattgccc	gcagtggagt	1860
cttcatggat	gagtggcagt	ggaagccttc	agatctgcac	cccacgatga	cagctgcact	1920
catctccaac	aagcctgagt	ttgtgaagct	cttcttgga	aacggggtgc	agctgaagga	1980
gtttgtcacc	tgggacacct	tgctctacct	gtacgagaac	ctggaccctt	cctgcctgtt	2040
ccacagcaag	ctgcaaaaagg	tgctggtgga	ggatcccag	cgcccggctt	gcgcgcccgc	2100
ggcgcccgc	ctgcagatgc	accacgtggc	ccaggtgctg	cgggagctgc	tgggggactt	2160
cgcagcccg	ctttatcccc	ggccccggca	caacgaccgg	ctgcggctcc	tgctgcccgt	2220
tccccacgtc	aagctcaacg	tgcaaggagt	gagcctccgg	tccctctaca	agcgttcttc	2280
aggccatgtg	accttcacca	tggaccccat	ccgtgacctt	ctcatttggg	ccattgtcca	2340
gaaccgtcgg	gagctggcag	gaatcatctg	ggctcagagc	caggactgca	tcgcagcggc	2400
cttggcctgc	agcaagatcc	tgaaggaaact	gtccaaggag	gaggaggaca	cggacagctc	2460
ggaggagatg	ctggcgctgg	cggaggagta	tgagcacaga	gccatcgggg	tcttcaccga	2520
gtgctaccgg	aaggacgaag	agagagccca	gaaactgctc	accgcgtgt	ccgaggcctg	2580
ggggaagacc	acctgcctgc	agctcgccct	ggaggccaag	gacatgaagt	ttgtgtctca	2640
cgggggcac	caggccttcc	tgaccaaggt	gtggtggggc	cagctctccg	tggacaatgg	2700
gctgtggcgt	gtgacctgt	gcatgctggc	cttcccgcgt	ctcctcaccg	gcctcatctc	2760
cttcagggag	aagaggctgc	aggatgtggg	caccccgcg	gcccgcgcc	gtgccttctt	2820
caccgcaccc	gtggtggtct	tccacctgaa	ctactctcc	tacttcgcct	tctctgcct	2880
gttcgcctac	gtgctcatgg	tggacttcca	gcctgtgccc	tcttgggtgcg	agtgtgccat	2940
ctacctctgg	ctcttctcct	tgggtgtcga	ggagatgcgg	cagctcttct	atgacctga	3000
cgagtgcggg	ctgatgaaga	aggcagcctt	gtacttcagt	gacttctgga	ataagctgga	3060
cgtcggcgca	atcttgctct	tcgtggcagg	gctgacctgc	aggctcatcc	cggcgacgct	3120
gtaccccggg	cgcgtcatcc	tctctctgga	cttcatcctg	ttctgcctcc	ggctcatgca	3180
catttttacc	atcagtaaga	cgctggggcc	caagatcatc	attgtgaagc	ggatgatgaa	3240
ggacgtcttc	ttcttctct	ttctgtggc	tgtgtgggtg	gtgtccttcg	gggtggccaa	3300
gcaggccatc	ctcatccaca	acgagcgccg	gttgactgtg	ctgttccgag	gggcgtcta	3360
ccactcttac	ctcaccatct	tcgggcagat	cccgggctac	atcgacggtg	tgaacttcaa	3420
cccggagcac	tgcagcccca	atggcaccga	cccctacaag	cctaagtgcc	ccgagagcga	3480

-14-

cgcgacgcag	cagaggccgg	ccttccctga	gtggctgacg	gtcctcctac	tctgcctcta	3540
cctgctcttc	accaacatcc	tgctgctcaa	cctcctcadc	gccatgttca	actacacctt	3600
ccagcaggtg	caggagcaca	cggaccagat	ttggaagtcc	cagcgccatg	acctgatcga	3660
ggagtaccac	ggccgccccg	ccgcgcgcgc	ccccttcate	ctcctcagcc	acctgcagct	3720
cttcatcaag	aggggtggtc	tgaagactcc	ggccaagagg	cacaagcagc	tcaagaacaa	3780
gctggagaag	aacgaggagg	cggccctgct	atcctgggag	atctacctga	aggagaacta	3840
cctccagaac	cgacagttcc	agcaaaaagca	gcggccccgag	cagaagatcg	aggacatcag	3900
caataagggt	gacgccatgg	tggacctgct	ggacctggac	ccactgaaga	ggtcggggctc	3960
catggagcag	aggttggcct	ccctggagga	gcaggtggcc	cagacagccc	gagccctgca	4020
ctggatcgtg	aggacgctgc	gggccagcgg	cttcagctcg	gaggcggacg	tccccactct	4080
ggcctcccag	aaggccgcgg	aggagccgga	tgctgagccg	ggaggcagga	agaagacgga	4140
ggagccgggc	gacagctacc	acgtgaatgc	ccggcacctc	ctctacccca	actgccctgt	4200
cacgcgcttc	cccgtgcccc	acgagaaggt	gccctgggag	acggagtctc	tgatctatga	4260
cccacccttt	tacacggcag	agaggaagga	cgcgccgcgc	atggacccca	tgggagacac	4320
cctggagcca	ctgtccacga	tccagtacaa	cgtggtggat	ggcctgaggg	accgccggag	4380
cttccacggg	ccgtacacag	tgcaggccgg	gttgccccctg	aacccccatgg	gccgcacagg	4440
actgcgtggg	cgcgggagcc	tcagctgctt	cggacccaac	cacacgctgt	acccccatggt	4500
cacgcggtgg	aggcggaacg	aggatggagc	catctgcagg	aagagcataa	agaagatgct	4560
ggaagtgtctg	gtggtgaagc	tccctctctc	cgagcactgg	gccctgcctg	ggggctcccc	4620
ggagccaggg	gagatgctac	ctcggaagct	gaagcggatc	ctccggcagg	agcactggcc	4680
gtcttttgaa	aacttgctga	agtgcggcat	ggaggtgtac	aaaggctaca	tggtatgaccc	4740
gaggaacacg	gacaatgcct	ggatcgagac	ggtggccgctc	agcgtccact	tccaggacca	4800
gaatgacgtg	gagctgaaca	ggctgaactc	taacctgcac	gcctgcgact	cgggggcctc	4860
catccgatgg	caggtggtgg	acaggcgcat	cccactctat	gcgaaccaca	agaccctcct	4920
ccagaaggca	gccgctgagt	tcggggctca	ctactgactg	tgccctcagg	ctggggcggt	4980
ccagtccata	gacgttcccc	ccagaaacca	gggttctctc	ctcctgagcc	tgcccaggac	5040
tcaggctggt	cctgggccct	gcacatgatg	gggttggtg	gacccagtgc	ccctcacggc	5100
tgccgcaagt	ctgctgcaga	tgacctcatg	aactggaagg	ggtcaagggt	acccggggagg	5160
agagctcaag	acagggcaca	ggctactcag	agctgagggg	cccctgggac	ccttggccat	5220
caggcgaggg	gctgggcctg	tgcagctggg	cccttggcc	gagtccactc	ccttcctggc	5280
tgtgtcaccc	cgagcagctc	atccaccatg	gaggtcattg	gcctgaggca	agttccccgg	5340
agagtcggga	tccccctgtg	ccccctcagg	cctatgtctg	tgaggaaggg	gccctgccac	5400
tctccccaa	agggcctcca	tgtttcgagg	tgcccaaca	tggagccttg	cctggcctgg	5460
gctaggggca	ctgtctgaac	tcctgactgt	caggataaac	tccgtggggg	tacaggagcc	5520
cagacaaagc	ccaggcctgt	caagagacgc	agagggcccc	tgccagggtt	ggccccaggg	5580
accctgggac	gaggctgcag	aagctctccc	tccttactcc	ctgggagcca	cgtgtggcc	5640
atgtggccag	ggacggcatg	agcaggaggc	ggggacgtgg	gggccttctg	gtttggtgtc	5700
aacagctcac	aggagcgtga	accatgaggg	ccctcaggag	gggaacgtgg	taaaacccaa	5760
gacattaaat	ctgccatctc	aggcctggct	ggctcttctg	tgctttccac	aaataaagtt	5820
cctgacacgt	ccagggccag	gggctgtgtg	acggctgcct	gaagttctcc	tcgatcccc	5880
ggtgagcttc	ctgcagcctg	tggatgtcct	gcagccctc	agccctaccc	ccaagtttct	5940
cctctgaccc	atcagctccc	tgtcttcatt	ttcctaaacc	tgggtccag	catcgtcccc	6000
aagcccacca	ggccaggatg	caggcatcca	catgccctcc	tccttggtt	cccctgcgtg	6060
gtggtgccaa	tgtgccctgg	cacccctgca	gaggtccgg	atggagcctg	gggctgcctg	6120
gccactgagc	actggccgag	gtgatgcccc	cccttccctg	gacaggcctc	tgtcttccac	6180
ctgacccaaa	gctctctagc	caccccttg	tccccagtat			6220

<210> 12

<211> 1503

<212> PRT

<213> Homo Sapiens

<400> 12

Met	Glu	Pro	Ser	Ala	Leu	Arg	Lys	Ala	Gly	Ser	Glu	Gln	Glu	Glu	Gly
1				5				10						15	
Phe	Glu	Gly	Leu	Pro	Arg	Arg	Val	Thr	Asp	Leu	Gly	Met	Val	Ser	Asn
			20					25					30		
Leu	Arg	Arg	Ser	Asn	Ser	Ser	Leu	Phe	Lys	Ser	Trp	Arg	Leu	Gln	Cys
			35				40					45			
Pro	Phe	Gly	Asn	Asn	Asp	Lys	Gln	Glu	Ser	Leu	Ser	Ser	Trp	Ile	Pro
50						55					60				

-15-

Glu	Asn	Ile	Lys	Lys	Lys	Glu	Cys	Val	Tyr	Phe	Val	Glu	Ser	Ser	Lys
65					70					75					80
Leu	Ser	Asp	Ala	Gly	Lys	Val	Val	Cys	Gln	Cys	Gly	Tyr	Thr	His	Glu
				85					90					95	
Gln	His	Leu	Glu	Ala	Thr	Lys	Pro	His	Thr	Phe	Gln	Gly	Thr	Gln	
			100				105					110			
Trp	Asp	Pro	Lys	Lys	His	Val	Gln	Glu	Met	Pro	Thr	Asp	Ala	Phe	Gly
		115					120					125			
Asp	Ile	Val	Phe	Thr	Gly	Leu	Ser	Gln	Lys	Val	Lys	Lys	Tyr	Val	Arg
		130				135					140				
Val	Ser	Gln	Asp	Thr	Pro	Ser	Ser	Val	Ile	Tyr	His	Leu	Met	Thr	Gln
145					150					155					160
His	Trp	Gly	Leu	Asp	Val	Pro	Asn	Leu	Leu	Ile	Ser	Val	Thr	Gly	Gly
				165				170						175	
Ala	Lys	Asn	Phe	Asn	Met	Lys	Pro	Arg	Leu	Lys	Ser	Ile	Phe	Arg	Arg
			180					185					190		
Gly	Leu	Val	Lys	Val	Ala	Gln	Thr	Thr	Gly	Ala	Trp	Ile	Ile	Thr	Gly
		195					200					205			
Gly	Ser	His	Thr	Gly	Val	Met	Lys	Gln	Val	Gly	Glu	Ala	Val	Arg	Asp
		210				215					220				
Phe	Ser	Leu	Ser	Ser	Ser	Tyr	Lys	Glu	Gly	Glu	Leu	Ile	Thr	Ile	Gly
225					230					235					240
Val	Ala	Thr	Trp	Gly	Thr	Val	His	Arg	Arg	Glu	Gly	Leu	Ile	His	Pro
				245					250					255	
Thr	Gly	Ser	Phe	Pro	Ala	Glu	Tyr	Ile	Leu	Asp	Glu	Asp	Gly	Gln	Gly
			260					265					270		
Asn	Leu	Thr	Cys	Leu	Asp	Ser	Asn	His	Ser	His	Phe	Ile	Leu	Val	Asp
		275					280					285			
Asp	Gly	Thr	His	Gly	Gln	Tyr	Gly	Val	Glu	Ile	Pro	Leu	Arg	Thr	Arg
		290				295					300				
Leu	Glu	Lys	Phe	Ile	Ser	Glu	Gln	Thr	Lys	Glu	Arg	Gly	Gly	Val	Ala
305					310					315					320
Ile	Lys	Ile	Pro	Ile	Val	Cys	Val	Val	Leu	Glu	Gly	Gly	Pro	Gly	Thr
				325					330					335	
Leu	His	Thr	Ile	Asp	Asn	Ala	Thr	Thr	Asn	Gly	Thr	Pro	Cys	Val	Val
			340					345					350		
Val	Glu	Gly	Ser	Gly	Arg	Val	Ala	Asp	Val	Ile	Ala	Gln	Val	Ala	Asn
		355					360					365			
Leu	Pro	Val	Ser	Asp	Ile	Thr	Ile	Ser	Leu	Ile	Gln	Gln	Lys	Leu	Ser
		370				375					380				
Val	Phe	Phe	Gln	Glu	Met	Phe	Glu	Thr	Phe	Thr	Glu	Ser	Arg	Ile	Val
385					390					395					400
Glu	Trp	Thr	Lys	Lys	Ile	Gln	Asp	Ile	Val	Arg	Arg	Arg	Gln	Leu	Leu
				405					410					415	
Thr	Val	Phe	Arg	Glu	Gly	Lys	Asp	Gly	Gln	Gln	Asp	Val	Asp	Val	Ala
			420					425					430		
Ile	Leu	Gln	Ala	Leu	Leu	Lys	Ala	Ser	Arg	Ser	Gln	Asp	His	Phe	Gly
			435				440					445			
His	Glu	Asn	Trp	Asp	His	Gln	Leu	Lys	Leu	Ala	Val	Ala	Trp	Asn	Arg
		450				455					460				
Val	Asp	Ile	Ala	Arg	Ser	Glu	Ile	Phe	Met	Asp	Glu	Trp	Gln	Trp	Lys
465					470					475					480
Pro	Ser	Asp	Leu	His	Pro	Thr	Met	Thr	Ala	Ala	Leu	Ile	Ser	Asn	Lys
				485					490					495	
Pro	Glu	Phe	Val	Lys	Leu	Phe	Leu	Glu	Asn	Gly	Val	Gln	Leu	Lys	Glu
			500					505					510		
Phe	Val	Thr	Trp	Asp	Thr	Leu	Leu	Tyr	Leu	Tyr	Glu	Asn	Leu	Asp	Pro
			515				520					525			
Ser	Cys	Leu	Phe	His	Ser	Lys	Leu	Gln	Lys	Val	Leu	Val	Glu	Asp	Pro
		530				535					540				
Glu	Arg	Pro	Ala	Cys	Ala	Pro	Ala	Ala	Pro	Arg	Leu	Gln	Met	His	His

-16-

545											550											560
Val	Ala	Gln	Val	Leu	Arg	Glu	Leu	Leu	Gly	Asp	Phe	Thr	Gln	Pro	Leu							
				565					570					575								
Tyr	Pro	Arg	Pro	Arg	His	Asn	Asp	Arg	Leu	Arg	Leu	Leu	Leu	Pro	Val							
			580					585					590									
Pro	His	Val	Lys	Leu	Asn	Val	Gln	Gly	Val	Ser	Leu	Arg	Ser	Leu	Tyr							
			595				600					605										
Lys	Arg	Ser	Ser	Gly	His	Val	Thr	Phe	Thr	Met	Asp	Pro	Ile	Arg	Asp							
	610				615					620												
Leu	Leu	Ile	Trp	Ala	Ile	Val	Gln	Asn	Arg	Arg	Glu	Leu	Ala	Gly	Ile							
625				630					635					640								
Ile	Trp	Ala	Gln	Ser	Gln	Asp	Cys	Ile	Ala	Ala	Ala	Leu	Ala	Cys	Ser							
				645				650						655								
Lys	Ile	Leu	Lys	Glu	Leu	Ser	Lys	Glu	Glu	Glu	Asp	Thr	Asp	Ser	Ser							
			660					665					670									
Glu	Glu	Met	Leu	Ala	Leu	Ala	Glu	Glu	Tyr	Glu	His	Arg	Ala	Ile	Gly							
		675					680					685										
Val	Phe	Thr	Glu	Cys	Tyr	Arg	Lys	Asp	Glu	Glu	Arg	Ala	Gln	Lys	Leu							
	690				695			700														
Leu	Thr	Arg	Val	Ser	Glu	Ala	Trp	Gly	Lys	Thr	Thr	Cys	Leu	Gln	Leu							
705				710				715						720								
Ala	Leu	Glu	Ala	Lys	Asp	Met	Lys	Phe	Val	Ser	His	Gly	Gly	Ile	Gln							
				725				730						735								
Ala	Phe	Leu	Thr	Lys	Val	Trp	Trp	Gly	Gln	Leu	Ser	Val	Asp	Asn	Gly							
			740					745					750									
Leu	Trp	Arg	Val	Thr	Leu	Cys	Met	Leu	Ala	Phe	Pro	Leu	Leu	Leu	Thr							
		755				760						765										
Gly	Leu	Ile	Ser	Phe	Arg	Glu	Lys	Arg	Leu	Gln	Asp	Val	Gly	Thr	Pro							
	770				775						780											
Ala	Ala	Arg	Ala	Arg	Ala	Phe	Phe	Thr	Ala	Pro	Val	Val	Val	Phe	His							
785				790					795					800								
Leu	Asn	Ile	Leu	Ser	Tyr	Phe	Ala	Phe	Leu	Cys	Leu	Phe	Ala	Tyr	Val							
				805				810						815								
Leu	Met	Val	Asp	Phe	Gln	Pro	Val	Pro	Ser	Trp	Cys	Glu	Cys	Ala	Ile							
			820					825					830									
Tyr	Leu	Trp	Leu	Phe	Ser	Leu	Val	Cys	Glu	Glu	Met	Arg	Gln	Leu	Phe							
		835					840					845										
Tyr	Asp	Pro	Asp	Glu	Cys	Gly	Leu	Met	Lys	Lys	Ala	Ala	Leu	Tyr	Phe							
	850				855						860											
Ser	Asp	Phe	Trp	Asn	Lys	Leu	Asp	Val	Gly	Ala	Ile	Leu	Leu	Phe	Val							
865				870					875					880								
Ala	Gly	Leu	Thr	Cys	Arg	Leu	Ile	Pro	Ala	Thr	Leu	Tyr	Pro	Gly	Arg							
				885				890						895								
Val	Ile	Leu	Ser	Leu	Asp	Phe	Ile	Leu	Phe	Cys	Leu	Arg	Leu	Met	His							
			900				</															

-17-

Leu Asn Leu Leu Ile Ala Met Phe Asn Tyr Thr Phe Gln Gln Val Gln
 1045 1050 1055
 Glu His Thr Asp Gln Ile Trp Lys Phe Gln Arg His Asp Leu Ile Glu
 1060 1065 1070
 Glu Tyr His Gly Arg Pro Ala Ala Pro Pro Phe Ile Leu Leu Ser
 1075 1080 1085
 His Leu Gln Leu Phe Ile Lys Arg Val Val Leu Lys Thr Pro Ala Lys
 1090 1095 1100
 Arg His Lys Gln Leu Lys Asn Lys Leu Glu Lys Asn Glu Glu Ala Ala
 1105 1110 1115 112
 Leu Leu Ser Trp Glu Ile Tyr Leu Lys Glu Asn Tyr Leu Gln Asn Arg
 1125 1130 1135
 Gln Phe Gln Gln Lys Gln Arg Pro Glu Gln Lys Ile Glu Asp Ile Ser
 1140 1145 1150
 Asn Lys Val Asp Ala Met Val Asp Leu Leu Asp Leu Asp Pro Leu Lys
 1155 1160 1165
 Arg Ser Gly Ser Met Glu Gln Arg Leu Ala Ser Leu Glu Glu Gln Val
 1170 1175 1180
 Ala Gln Thr Ala Arg Ala Leu His Trp Ile Val Arg Thr Leu Arg Ala
 1185 1190 1195 120
 Ser Gly Phe Ser Ser Glu Ala Asp Val Pro Thr Leu Ala Ser Gln Lys
 1205 1210 1215
 Ala Ala Glu Glu Pro Asp Ala Glu Pro Gly Gly Arg Lys Lys Thr Glu
 1220 1225 1230
 Glu Pro Gly Asp Ser Tyr His Val Asn Ala Arg His Leu Leu Tyr Pro
 1235 1240 1245
 Asn Cys Pro Val Thr Arg Phe Pro Val Pro Asn Glu Lys Val Pro Trp
 1250 1255 1260
 Glu Thr Glu Phe Leu Ile Tyr Asp Pro Pro Phe Tyr Thr Ala Glu Arg
 1265 1270 1275 128
 Lys Asp Ala Ala Ala Met Asp Pro Met Gly Asp Thr Leu Glu Pro Leu
 1285 1290 1295
 Ser Thr Ile Gln Tyr Asn Val Val Asp Gly Leu Arg Asp Arg Arg Ser
 1300 1305 1310
 Phe His Gly Pro Tyr Thr Val Gln Ala Gly Leu Pro Leu Asn Pro Met
 1315 1320 1325
 Gly Arg Thr Gly Leu Arg Gly Arg Gly Ser Leu Ser Cys Phe Gly Pro
 1330 1335 1340
 Asn His Thr Leu Tyr Pro Met Val Thr Arg Trp Arg Arg Asn Glu Asp
 1345 1350 1355 136
 Gly Ala Ile Cys Arg Lys Ser Ile Lys Lys Met Leu Glu Val Leu Val
 1365 1370 1375
 Val Lys Leu Pro Leu Ser Glu His Trp Ala Leu Pro Gly Gly Ser Arg
 1380 1385 1390
 Glu Pro Gly Glu Met Leu Pro Arg Lys Leu Lys Arg Ile Leu Arg Gln
 1395 1400 1405
 Glu His Trp Pro Ser Phe Glu Asn Leu Leu Lys Cys Gly Met Glu Val
 1410 1415 1420
 Tyr Lys Gly Tyr Met Asp Asp Pro Arg Asn Thr Asp Asn Ala Trp Ile
 1425 1430 1435 144
 Glu Thr Val Ala Val Ser Val His Phe Gln Asp Gln Asn Asp Val Glu
 1445 1450 1455
 Leu Asn Arg Leu Asn Ser Asn Leu His Ala Cys Asp Ser Gly Ala Ser
 1460 1465 1470
 Ile Arg Trp Gln Val Val Asp Arg Arg Ile Pro Leu Tyr Ala Asn His
 1475 1480 1485
 Lys Thr Leu Leu Gln Lys Ala Ala Ala Glu Phe Gly Ala His Tyr
 1490 1495 1500

<210> 13

<211> 1816

-18-

<212> PRT

<213> C. Elegans

<400> 13

Met	Ile	Thr	Asp	Lys	Asn	Leu	Phe	Ser	Arg	Leu	Leu	Ile	Lys	Lys	Asn
1				5					10					15	
Pro	Ile	Arg	Met	His	Ser	Pro	Ser	Phe	Ser	Phe	Ser	Leu	Ile	Thr	Ser
			20					25					30		
Leu	Phe	Phe	Thr	Gln	Phe	Phe	Met	Phe	Gln	Leu	Ser	Ser	Met	Ala	Tyr
	35						40					45			
Phe	Phe	Leu	Thr	Leu	Ile	Ala	Gly	Val	Thr	His	Phe	Tyr	Phe	Pro	Glu
	50					55					60				
Lys	Leu	Leu	Gly	Lys	Ser	Glu	Asn	Leu	Asp	His	Arg	Tyr	Gln	Ser	Ser
65				70					75					80	
Glu	Gln	Lys	Val	Leu	Ile	Glu	Trp	Thr	Glu	Asn	Lys	Ala	Val	Ala	Glu
			85						90					95	
Ser	Leu	Arg	Ala	Asn	Ser	Val	Thr	Val	Glu	Glu	Asn	Glu	Ser	Glu	Arg
			100					105						110	
Glu	Thr	Glu	Thr	Gln	Thr	Lys	Arg	Arg	Arg	Lys	Lys	Gln	Arg	Ser	Thr
	115						120					125			
Ser	Ser	Asp	Lys	Ala	Pro	Leu	Asn	Ser	Ala	Pro	Arg	His	Val	Gln	Lys
	130					135					140				
Phe	Asp	Trp	Lys	Asp	Met	Leu	His	Leu	Ala	Asp	Ile	Ser	Gly	Arg	Lys
145					150					155					160
Arg	Gly	Asn	Ser	Thr	Thr	Ser	His	Ser	Gly	His	Ala	Thr	Arg	Ala	Gly
				165					170					175	
Ser	Leu	Lys	Gly	Lys	Asn	Trp	Ile	Glu	Cys	Arg	Leu	Lys	Met	Arg	Gln
			180					185					190		
Cys	Ser	Tyr	Phe	Val	Pro	Ser	Gln	Arg	Phe	Ser	Glu	Arg	Cys	Gly	Cys
	195						200					205			
Gly	Lys	Glu	Arg	Ser	Lys	His	Thr	Glu	Glu	Val	Leu	Glu	Arg	Ser	Gln
	210					215					220				
Asn	Lys	Asn	His	Pro	Leu	Asn	His	Leu	Thr	Leu	Pro	Gly	Ile	His	Glu
225					230					235					240
Val	Asp	Thr	Thr	Asp	Ala	Asp	Ala	Asp	Asp	Asn	Glu	Val	Asn	Leu	Thr
				245					250					255	
Pro	Gly	Arg	Trp	Ser	Ile	Gln	Ser	His	Thr	Glu	Ile	Val	Pro	Thr	Asp
			260					265						270	
Ala	Tyr	Gly	Asn	Ile	Val	Phe	Glu	Gly	Thr	Ala	His	His	Ala	Gln	Tyr
	275						280					285			
Ala	Arg	Ile	Ser	Phe	Asp	Ser	Asp	Pro	Arg	Asp	Ile	Val	His	Leu	Met
	290					295					300				
Met	Lys	Val	Trp	Lys	Leu	Lys	Pro	Pro	Lys	Leu	Ile	Ile	Thr	Ile	Asn
305					310					315					320
Gly	Gly	Leu	Thr	Lys	Phe	Asp	Leu	Gln	Pro	Lys	Leu	Ala	Arg	Thr	Phe
				325					330					335	
Arg	Lys	Gly	Ile	Met	Lys	Ile	Ala	Lys	Ser	Thr	Asp	Ala	Trp	Ile	Ile
			340					345					350		
Thr	Ser	Gly	Leu	Asp	Glu	Gly	Val	Val	Lys	His	Leu	Asp	Ser	Ala	Leu
		355				360						365			
His	Ala	Leu	Glu	Phe	Trp	Ser	Phe	Gly	Leu	Phe	Trp	Val	Ile	Gln	Leu
	370					375					380				
Asp	Val	Leu	Leu	Ala	His	Ser	Met	Phe	Ile	Pro	Arg	Gly	Ser	Leu	Phe
385					390					395					400
Asp	His	Gly	Asn	His	Thr	Ser	Lys	Asn	His	Val	Val	Ala	Ile	Gly	Ile
				405					410					415	
Ala	Ser	Trp	Gly	Met	Leu	Lys	Gln	Arg	Ser	Arg	Phe	Val	Gly	Lys	Asp
			420					425					430		
Ser	Thr	Val	Thr	Tyr	Ala	Thr	Asn	Val	Phe	Asn	Asn	Thr	Arg	Leu	Lys
			435				440					445			
Glu	Leu	Asn	Asp	Asn	His	Ser	Tyr	Phe	Leu	Phe	Ser	Asp	Asn	Gly	Thr

-19-

450		455		460
Val Asn Arg Tyr Gly Ala Glu Ile Ile Met Arg Lys Arg Leu Glu Ala				
465		470		475
Tyr Leu Ala Gln Gly Asp Lys Lys Arg Ser Ala Ile Pro Leu Val Cys				480
	485		490	495
Val Val Leu Glu Gly Gly Ala Phe Thr Ile Lys Met Val His Asp Tyr				
	500		505	510
Val Thr Thr Ile Pro Arg Ile Pro Val Ile Val Cys Asp Gly Ser Gly				
	515		520	525
Arg Ala Ala Asp Ile Leu Ala Phe Ala His Gln Ala Val Ser Gln Asn				
	530		535	540
Gly Phe Leu Ser Asp Asn Ile Arg Asn Gln Leu Val Asn Ile Val Arg				
545		550		555
Arg Ile Phe Gly Tyr Asp Pro Lys Thr Ala Gln Lys Leu Ile Lys Gln				560
	565		570	575
Ile Val Glu Cys Ser Thr Asn Lys Ser Leu Met Thr Ile Phe Arg Leu				
	580		585	590
Gly Glu Ser Ser Arg Glu Asp Leu Asp His Val Ile Met Ser Cys Leu				
	595		600	605
Leu Lys Gly Gln Asn Leu Ser Pro Pro Glu Gln Leu Gln Leu Ala Leu				
	610		615	620
Ala Trp Asn Arg Ala Asp Ile Ala Arg Thr Glu Ile Phe Ala Asn Gly				
625		630		635
Thr Glu Trp Thr Thr Gln Asp Leu His Asn Ala Met Ile Glu Ala Leu				
	645		650	655
Ser Asn Asp Arg Ile Asp Phe Val His Leu Leu Leu Glu Asn Gly Val				
	660		665	670
Ser Met Gln Lys Phe Leu Thr Tyr Gly Arg Leu Glu His Leu Tyr Asn				
	675		680	685
Thr Asp Lys Gly Pro Gln Asn Thr Leu Arg Thr Asn Leu Leu Val Asp				
	690		695	700
Ser Lys His His Ile Lys Leu Val Glu Val Gly Arg Leu Val Glu Asn				
705		710		715
Leu Met Gly Asn Leu Tyr Lys Ser Asn Tyr Thr Lys Glu Glu Phe Lys				
	725		730	735
Asn Gln Tyr Phe Leu Phe Asn Asn Arg Lys Gln Phe Gly Lys Arg Val				
	740		745	750
His Ser Asn Ser Asn Gly Gly Arg Asn Asp Val Ile Gly Pro Ser Gly				
	755		760	765
Asp Ala Gly Arg Glu Arg Met Ser Ser Met Gln Ile Ser Leu Ile Asn				
	770		775	780
Asn Ala Arg Asn Ser Ile Ile Ser Leu Phe Asn Gly Gly Gly Arg Lys				
785		790		795
Arg Glu Ser Asp Asp Glu Asp Asp Phe Ser Asn Leu Glu Glu Glu Ala				
	805		810	815
Asn Met Asp Phe Thr Phe Arg Tyr Pro Tyr Ser Asp Leu Met Ile Trp				
	820		825	830
Ala Val Leu Thr Lys Arg Gln Lys Met Ala Lys Leu Met Trp Thr His				
	835		840	845
Gly Glu Glu Gly Met Ala Lys Ala Leu Val Ala Ser Arg Leu Tyr Val				
	850		855	860
Ser Leu Ala Lys Thr Ala Ser Leu Ala Thr Gly Glu Ile Gly Met Ser				
865		870		875
Gln Asp Phe Thr Glu Phe Ser Asp Glu Phe Ser Glu Leu Ala Val Glu				
	885		890	895
Val Leu Glu Tyr Cys Thr Lys His Gly Arg Asp Gln Thr Leu Arg Leu				
	900		905	910
Leu Thr Cys Glu Leu Ala Asn Trp Gly Asp Glu Thr Cys Leu Ser Leu				
	915		920	925
Ala Ala Asn Asn Gly His Arg Lys Phe Leu Ala His Pro Cys Cys Gln				
930		935		940

-20-

Met Leu Leu Ser Asp Leu Trp Gln Gly Gly Leu Leu Met Lys Asn Asn
 945 950 955 960
 Gln Asn Ser Lys Val Leu Thr Cys Leu Ala Ala Pro Pro Leu Ile Phe
 965 970 975
 Leu Leu Gly Phe Lys Thr Lys Glu Gln Leu Met Leu Gln Pro Lys Thr
 980 985 990
 Ala Ala Glu His Asp Glu Glu Met Ser Asp Ser Glu Met Asn Ser Ala
 995 1000 1005
 Glu Asp Thr Asp Thr Ser Ser Asp Ser Ser Ser Asp Ser Asp Asp Ser
 1010 1015 1020
 Asp Glu Glu Asp Ala Lys Leu Arg Ala Gln Ser Leu Ser Ala Asp Gln
 1025 1030 1035 104
 Pro Leu Ser Ile His Arg Leu Val Arg Asp Lys Leu Asn Phe Ser Glu
 1045 1050 1055
 Lys Lys Lys Pro Asp Met Gly Ile Ser Arg Ile Val Val Ala Pro Pro
 1060 1065 1070
 Ile Val Thr Gly Arg Asn Arg Ala Arg Thr Met Ser Ile Lys Lys Ser
 1075 1080 1085
 Lys Lys Asn Val Ile Lys Pro Pro Ala Cys Leu Lys Ile Glu Thr Ser
 1090 1095 1100
 Asp Asp Asp Glu Gln Glu Gln Lys Lys Ala Thr Glu Met Cys Lys Ser
 1105 1110 1115 112
 Thr Phe Phe Asp Phe Phe Phe Asp Phe Pro Tyr Ile Asn Arg Thr Gly
 1125 1130 1135
 Lys Arg Gly Ser Val Ala Val Ala Met Asn His Asp Asp Met Tyr Ile
 1140 1145 1150
 Asp Pro Ser Glu Glu Leu Asp Thr Gln Thr Arg Gln Lys Ser Ser Arg
 1155 1160 1165
 Glu Phe Ser Ser Ser Arg Asn Val Thr Val Gln Val Tyr Thr Gln Arg
 1170 1175 1180
 Pro Leu Ser Trp Lys Lys Lys Ile Met Glu Phe Tyr Lys Ala Pro Ile
 1185 1190 1195 120
 Thr Thr Tyr Trp Leu Trp Phe Phe Ala Phe Ile Trp Phe Leu Ile Leu
 1205 1210 1215
 Leu Thr Tyr Asn Leu Leu Val Lys Thr Gln Arg Ile Ala Ser Trp Ser
 1220 1225 1230
 Glu Trp Tyr Val Phe Ala Tyr Ile Phe Val Trp Thr Leu Glu Ile Gly
 1235 1240 1245
 Arg Lys Val Val Ser Thr Ile Met Met Asp Thr Ser Lys Pro Val Leu
 1250 1255 1260
 Lys Gln Leu Arg Val Phe Phe Phe Gln Tyr Arg Asn Gly Leu Leu Ala
 1265 1270 1275 128
 Phe Gly Leu Leu Thr Tyr Leu Ile Ala Tyr Phe Ile Arg Leu Ser Pro
 1285 1290 1295
 Thr Thr Lys Thr Leu Gly Arg Ile Leu Ile Ile Cys Asn Ser Val Ile
 1300 1305 1310
 Trp Ser Leu Lys Leu Val Asp Tyr Leu Ser Val Gln Gln Gly Leu Gly
 1315 1320 1325
 Pro Tyr Ile Asn Ile Val Ala Glu Met Ile Pro Thr Met Ile Pro Leu
 1330 1335 1340
 Cys Val Leu Val Phe Ile Thr Leu Tyr Ala Phe Gly Leu Leu Arg Gln
 1345 1350 1355 136
 Ser Ile Thr Tyr Pro Tyr Glu Asp Trp His Trp Ile Leu Val Arg Asn
 1365 1370 1375
 Ile Phe Leu Gln Pro Tyr Phe Met Leu Tyr Gly Glu Val Tyr Ala Ala
 1380 1385 1390
 Glu Ile Asp Thr Cys Gly Asp Glu Ile Trp Gln Thr His Glu Asp Glu
 1395 1400 1405
 Asn Ile Pro Ile Ser Met Leu Asn Val Thr His Glu Thr Cys Val Pro
 1410 1415 1420
 Gly Tyr Trp Ile Ala Pro Val Gly Leu Thr Val Phe Met Leu Ala Thr

-21-

1425					1430					1435					144
Asn Val Leu Leu Met Asn Val Met Val Ala Gly Cys Thr Tyr Ile Phe															145
				1445					1450						1455
Glu Lys His Ile Gln Ser Thr Arg Glu Ile Phe Leu Phe Glu Arg Tyr				1460					1465						1470
Gly Gln Val Met Glu Tyr Glu Ser Thr Pro Trp Leu Pro Pro Pro Phe				1475					1480						1485
Thr Ile Ile Tyr His Val Ile Trp Leu Phe Lys Leu Ile Lys Ser Ser				1490					1495						1500
Ser Arg Met Phe Glu Arg Lys Asn Leu Phe Asp Gln Ser Leu Lys Leu				1505					1510						1515
Phe Leu Ser Pro Asp Glu Met Glu Lys Val His Thr Phe Glu Glu Glu				1525					1530						1535
Ser Val Glu Asp Met Lys Arg Glu Thr Glu Lys Lys Asn Leu Ser Ser				1540					1545						1550
Asn Asp Glu Arg Ile His Arg Thr Ala Glu Arg Thr Asp Ala Ile Leu				1555					1560						1565
Asn Arg Val Ser His Leu Thr Gln Leu Glu Phe Thr Leu Lys Glu Glu				1570					1575						1580
Ile Arg Glu Leu Glu His Lys Met Lys Asn Met Asp Ser Arg His Lys				1585					1590						1595
Glu Gln Met Asn Leu Met Leu Asp Met Asn Lys Lys Leu Gly Lys Phe				1605					1610						1615
Ile Ser Gly Lys Tyr Lys Arg Gly Ser Phe Gly Gly Ser Gly Ser Asp				1620					1625						1630
Gly Gly Gly Ser Ser Asp Asn Ser Lys Leu Glu Pro Asn Asn Ser				1635					1640						1645
Val Pro Met Ile Thr Val Asp Gly Pro Ser Pro Ile Gly Ser Arg Arg				1650					1655						1660
Thr Ser Gly Gln Tyr Leu Lys Arg Asp Ser Leu Gln Ala Lys Lys Lys				1665					1670						1675
Ile Thr Glu Asn Arg Arg Ser Ser Leu Glu Gln Pro Lys Ile Pro Ser				1685					1690						1695
Ile Gln Phe Asn Leu Met Glu Asp Gln Asp Glu Ser Ala Ala Glu Ser				1700					1705						1710
Ala Thr Glu Glu Val Ser Ile Ser Ile Pro Val Pro Gln Met Arg Val				1715					1720						1725
Arg Gln Val Thr Glu Ser Asp Lys Ser Asp Leu Ser Glu Asp Asp Leu				1730					1735						1740
Ile Thr Arg Glu Asp Ala Pro Pro Thr Ser Ile Asn Leu Pro Arg Gly				1745					1750						1755
Pro Arg Arg His Ala Leu Tyr Ser Thr Ile Ala Asp Ala Ile Glu Thr				1765					1770						1775
Glu Asp Asp Phe Tyr Ala Asp Ser Pro Val Pro Met Pro Met Thr Pro				1780					1785						1790
Val Gln Pro Ala Asp Gly Ser Phe Phe Gly Glu Asn Asp Ser Arg Tyr				1795					1800						1805
Gln Arg Asp Asp Ser Asp Tyr Glu				1810					1815						

```
<210> 14
<211> 1387
<212> PRT
<213> C. Elegans
```

<400> 14
Met Arg Lys Ser Arg Arg Val Arg Lys Leu Val Arg His Ala Ser Leu
1 5 10 15
Ile Glu Asn Ile Arg His Arg Thr Ser Ser Phe Leu Arg Leu Asn
20 25 30
Ala Pro Arg Asn Ser Met Cys Asn Ala Asn Thr Val His Ser Ile Ser

-22-

35	40	45
Ser Phe Arg Ser Asp His Leu Ser Arg Lys Ser Thr His Lys Phe Leu		
50	55	60
Asp Asn Pro Asn Leu Phe Ala Ile Glu Leu Thr Glu Lys Leu Ser Pro		
65	70	75
Pro Trp Ile Glu Asn Thr Phe Glu Lys Arg Glu Cys Ile Arg Phe Ala		80
	85	90
Ala Leu Pro Lys Asp Pro Glu Arg Cys Gly Cys Gly Arg Pro Leu Ser		95
	100	105
Ala His Thr Pro Ala Ser Thr Phe Ser Thr Leu Pro Val His Leu		110
	115	120
Leu Glu Lys Glu Gln Gln Thr Trp Thr Ile Ala Asn Asn Thr Gln Thr		125
	130	135
Ser Thr Thr Asp Ala Phe Gly Thr Ile Val Phe Gln Gly Gly Ala His		140
145	150	155
Ala His Lys Ala Gln Tyr Val Arg Leu Ser Tyr Asp Ser Glu Pro Leu		160
	165	170
Asp Val Met Tyr Leu Met Glu Lys Val Trp Gly Leu Glu Ala Pro Arg		175
	180	185
Leu Val Ile Thr Val His Gly Gly Met Ser Asn Phe Glu Leu Glu Glu		190
	195	200
Arg Leu Gly Arg Leu Phe Arg Lys Gly Met Leu Lys Ala Ala Gln Thr		205
	210	215
Thr Gly Ala Trp Ile Ile Thr Ser Gly Leu Asp Ser Gly Val Val Arg		220
225	230	235
His Val Ala Lys Ala Leu Asp Glu Ala Gly Ile Ser Ala Arg Met Arg		240
	245	250
Ser Gln Ile Val Thr Ile Gly Ile Ala Pro Trp Gly Val Ile Lys Arg		255
	260	265
Lys Glu Arg Leu Ile Arg Gln Asn Glu His Val Tyr Tyr Asp Val His		270
	275	280
Ser Leu Ser Val Asn Ala Asn Val Gly Ile Leu Asn Asp Arg His Ser		285
	290	295
Tyr Phe Leu Leu Ala Asp Asn Gly Thr Val Gly Arg Phe Gly Ala Asp		300
305	310	315
Leu His Leu Arg Gln Asn Leu Glu Asn His Ile Ala Thr Phe Gly Cys		320
	325	330
Asn Gly Arg Lys Val Pro Val Val Cys Thr Leu Leu Glu Gly Gly Ile		335
	340	345
Ser Ser Ile Asn Ala Ile His Asp Tyr Val Thr Met Lys Pro Asp Ile		350
	355	360
Pro Ala Ile Val Cys Asp Gly Ser Gly Arg Ala Ala Asp Ile Ile Ser		365
	370	375
Phe Ala Ala Arg Tyr Ile Asn Ser Asp Gly Thr Phe Ala Ala Glu Val		380
385	390	395
Gly Glu Lys Leu Arg Asn Leu Ile Lys Met Val Phe Pro Glu Thr Asp		400
	405	410
Gln Glu Glu Met Phe Arg Lys Ile Thr Glu Cys Val Ile Arg Asp Asp		415
	420	425
Leu Leu Arg Ile Phe Arg Tyr Gly Gln Glu Glu Glu Glu Asp Val Asp		430
	435	440
Phe Val Ile Leu Ser Thr Val Leu Gln Lys Gln Asn Leu Pro Pro Asp		445
	450	455
Glu Gln Leu Ala Leu Thr Leu Ser Trp Asn Arg Val Asp Leu Ala Lys		460
465	470	475
Ser Cys Leu Phe Ser Asn Gly Arg Lys Trp Ser Ser Asp Val Leu Glu		480
	485	490
Lys Ala Met Asn Asp Ala Leu Tyr Trp Asp Arg Val Asp Phe Val Glu		495
	500	505
Cys Leu Leu Glu Asn Gly Val Ser Met Lys Asn Phe Leu Ser Ile Asn		510
	515	520
		525

-23-

Arg Leu Glu Asn Leu Tyr Asn Met Asp Asp Ile Asn Ser Ala His Ser
 530 535 540
 Val Arg Asn Trp Met Glu Asn Phe Asp Ser Met Asp Pro His Thr Tyr
 545 550 555 560
 Leu Thr Ile Pro Met Ile Gly Gln Val Val Glu Lys Leu Met Gly Asn
 565 570 575
 Ala Phe Gln Leu Tyr Tyr Thr Ser Arg Ser Phe Lys Gly Lys Tyr Asp
 580 585 590
 Arg Tyr Lys Arg Ile Asn Gln Ser Ser Tyr Phe His Arg Lys Arg Lys
 595 600 605
 Ile Val Gln Lys Glu Leu Phe Lys Lys Lys Ser Asp Asp Gln Ile Asn
 610 615 620
 Asp Asn Glu Glu Glu Asp Phe Ser Phe Ala Tyr Pro Phe Asn Asp Leu
 625 630 635 640
 Leu Ile Trp Ala Val Leu Thr Ser Arg His Gly Met Ala Glu Cys Met
 645 650 655
 Trp Val His Gly Glu Asp Ala Met Ala Lys Cys Leu Leu Ala Ile Arg
 660 665 670
 Leu Tyr Lys Ala Thr Ala Lys Ile Ala Glu Asp Glu Tyr Leu Asp Val
 675 680 685
 Glu Glu Ala Lys Arg Leu Phe Asp Asn Ala Val Lys Cys Arg Glu Asp
 690 695 700
 Ala Ile Glu Leu Leu Asp Gln Cys Tyr Arg Ala Asp His Asp Arg Thr
 705 710 715 720
 Leu Arg Leu Leu Arg Met Glu Leu Pro His Trp Gly Asn Asn Asn Cys
 725 730 735
 Leu Ser Leu Ala Val Leu Ala Asn Thr Lys Thr Phe Leu Ala His Pro
 740 745 750
 Cys Cys Gln Ile Leu Leu Ala Glu Leu Trp His Gly Ser Leu Lys Val
 755 760 765
 Arg Ser Gly Ser Asn Val Arg Val Leu Thr Ala Leu Ile Cys Pro Pro
 770 775 780
 Ala Ile Leu Phe Met Ala Tyr Lys Pro Lys His Ser Lys Thr Ala Arg
 785 790 795 800
 Leu Leu Ser Glu Glu Thr Pro Glu Gln Leu Pro Tyr Pro Arg Glu Ser
 805 810 815
 Ile Thr Ser Thr Thr Ser Asn Arg Tyr Arg Tyr Ser Lys Gly Pro Glu
 820 825 830
 Glu Gln Lys Glu Thr Leu Leu Glu Lys Gly Ser Tyr Thr Lys Lys Val
 835 840 845
 Thr Ile Ile Ser Ser Arg Lys Asn Ser Gly Val Ala Ser Val Tyr Gly
 850 855 860
 Ser Ala Ser Ser Met Met Phe Lys Arg Glu Pro Gln Leu Asn Lys Phe
 865 870 875 880
 Glu Arg Phe Arg Ala Phe Tyr Ser Ser Pro Ile Thr Lys Phe Trp Ser
 885 890 895
 Trp Cys Ile Ala Phe Leu Ile Phe Leu Thr Thr Gln Thr Cys Ile Leu
 900 905 910
 Leu Leu Glu Thr Ser Leu Lys Pro Ser Lys Tyr Glu Trp Ile Thr Phe
 915 920 925
 Ile Tyr Thr Val Thr Leu Ser Val Glu His Ile Arg Lys Leu Met Thr
 930 935 940
 Ser Glu Gly Ser Arg Ile Asn Glu Lys Val Lys Val Phe Tyr Ala Lys
 945 950 955 960
 Trp Tyr Asn Ile Trp Thr Ser Ala Ala Leu Leu Phe Phe Leu Val Gly
 965 970 975
 Tyr Gly Phe Arg Leu Val Pro Met Tyr Arg His Ser Trp Gly Arg Val
 980 985 990
 Leu Leu Ser Phe Ser Asn Val Leu Phe Tyr Met Lys Ile Phe Glu Tyr
 995 1000 1005
 Leu Ser Val His Pro Leu Leu Gly Pro Tyr Ile Gln Met Ala Ala Lys

-24-

1010					1015					1020					
Met	Val	Trp	Ser	Met	Cys	Tyr	Ile	Cys	Val	Leu	Leu	Leu	Val	Pro	Leu
1025					1030					1035				104	
Met	Ala	Phe	Gly	Val	Asn	Arg	Gln	Ala	Leu	Thr	Glu	Pro	Asn	Val	Lys
					1045					1050				1055	
Asp	Trp	His	Trp	Leu	Leu	Val	Arg	Asn	Ile	Phe	Tyr	Lys	Pro	Tyr	Phe
					1060					1065				1070	
Met	Leu	Tyr	Gly	Glu	Val	Tyr	Ala	Gly	Glu	Ile	Asp	Thr	Cys	Gly	Asp
					1075					1080				1085	
Glu	Gly	Ile	Arg	Cys	Phe	Pro	Gly	Tyr	Phe	Ile	Pro	Pro	Leu	Leu	Met
					1090					1095				1100	
Val	Ile	Phe	Leu	Leu	Val	Ala	Asn	Ile	Leu	Leu	Leu	Asn	Leu	Leu	Ile
1105					1110					1115				112	
Ala	Ile	Phe	Asn	Asn	Ile	Tyr	Asn	Asp	Ser	Ile	Glu	Lys	Ser	Lys	Glu
					1125					1130				1135	
Ile	Trp	Leu	Phe	Gln	Arg	Tyr	Gln	Gln	Leu	Met	Glu	Tyr	His	Asp	Ser
					1140					1145				1150	
Pro	Phe	Leu	Pro	Pro	Pro	Phe	Ser	Ile	Phe	Ala	His	Val	Tyr	His	Phe
					1155					1160				1165	
Ile	Asp	Tyr	Leu	Tyr	Asn	Leu	Arg	Arg	Pro	Asp	Thr	Lys	Arg	Phe	Arg
					1170					1175				1180	
Ser	Glu	His	Ser	Ile	Lys	Leu	Ser	Val	Thr	Glu	Asp	Glu	Met	Lys	Arg
1185					1190					1195				120	
Ile	Gln	Asp	Phe	Glu	Glu	Asp	Cys	Ile	Asp	Thr	Leu	Thr	Arg	Ile	Arg
					1205					1210				1215	
Lys	Leu	Lys	Leu	Asn	Thr	Lys	Glu	Pro	Leu	Ser	Val	Thr	Asp	Leu	Thr
					1220					1225				1230	
Glu	Leu	Thr	Cys	Gln	Arg	Val	His	Asp	Leu	Met	Gln	Glu	Asn	Phe	Leu
					1235					1240				1245	
Leu	Lys	Ser	Arg	Val	Tyr	Asp	Ile	Glu	Thr	Lys	Ile	Asp	His	Ile	Ser
					1250					1255				1260	
Asn	Ser	Ser	Asp	Glu	Val	Val	Gln	Ile	Leu	Lys	Asn	Lys	Lys	Leu	Ser
1265					1270					1275				128	
Gln	Asn	Phe	Ala	Ala	Ser	Ser	Leu	Ser	Leu	Pro	Asp	Thr	Ser	Ile	Glu
					1285					1290				1295	
Val	Pro	Lys	Ile	Thr	Lys	Thr	Leu	Ile	Asp	Cys	His	Leu	Ser	Pro	Val
					1300					1305				1310	
Ser	Ile	Glu	Asp	Arg	Leu	Ala	Thr	Arg	Ser	Pro	Leu	Leu	Ala	Asn	Leu
					1315					1320				1325	
Gln	Arg	Asp	His	Thr	Leu	Arg	Lys	Leu	Pro	Thr	Trp	Glu	Thr	Ser	Thr
					1330					1335				1340	
Ala	Ser	Thr	Ser	Ser	Phe	Glu	Phe	Val	Phe	Tyr	Phe	Thr	Arg	His	Glu
1345					1350					1355				136	
Gly	Asn	Glu	Asn	Lys	Tyr	Glu	Phe	Lys	Lys	Leu	Glu	Lys	Gly	Gly	Phe
					1365					1370				1375	
Trp	Arg	Asn	Asn	Tyr	Val	Ile	Ser	Trp	Arg	Leu					
					1380					1385					

<210> 15
 <211> 1868
 <212> PRT
 <213> C. Elegans

<400> 15															
Met	Asn	Leu	Cys	Tyr	Arg	Arg	His	Arg	Tyr	Ala	Ser	Ser	Pro	Glu	Val
1				5					10					15	
Trp	Cys	Thr	Met	Glu	Ser	Asp	Glu	Leu	Gly	Val	Thr	Arg	Tyr	Leu	Gln
			20					25					30		
Ser	Lys	Gly	Gly	Asp	Gln	Val	Pro	Pro	Thr	Ser	Thr	Thr	Thr	Gly	Gly
		35					40					45			
Ala	Gly	Gly	Asp	Gly	Asn	Ala	Val	Pro	Thr	Thr	Ser	Gln	Ala	Gln	Ala

-25-

-26-

Ser	Asp	Val	Phe	Ala	Met	Gly	His	Glu	Trp	Pro	Gln	Ala	Ala	Leu	His
545					550					555					560
Asn	Ala	Met	Met	Glu	Ala	Leu	Ile	His	Asp	Arg	Val	Asp	Phe	Val	Arg
				565					570						575
Leu	Leu	Leu	Glu	Gln	Gly	Ile	Asn	Met	Gln	Lys	Phe	Leu	Thr	Ile	Ser
			580					585						590	
Arg	Leu	Asp	Glu	Leu	Tyr	Asn	Thr	Asp	Lys	Gly	Pro	Pro	Asn	Thr	Leu
		595					600						605		
Phe	Tyr	Ile	Val	Arg	Asp	Val	Val	Arg	Val	Arg	Gln	Gly	Tyr	Arg	Phe
	610					615					620				
Lys	Leu	Pro	Asp	Ile	Gly	Leu	Val	Ile	Glu	Lys	Leu	Met	Gly	Asn	Ser
625					630					635					640
Tyr	Gln	Cys	Ser	Tyr	Thr	Thr	Ser	Glu	Phe	Arg	Asp	Lys	Tyr	Lys	Gln
				645					650						655
Arg	Met	Lys	Arg	Val	Lys	His	Ala	Gln	Lys	Lys	Ala	Met	Gly	Val	Phe
			660					665						670	
Ser	Ser	Arg	Pro	Ser	Arg	Thr	Gly	Ser	Gly	Ile	Ala	Ser	Arg	Gln	Ser
		675					680						685		
Thr	Glu	Gly	Met	Gly	Gly	Val	Gly	Gly	Gly	Ser	Ser	Val	Ala	Gly	Val
	690					695						700			
Phe	Gly	Asn	Ser	Phe	Gly	Asn	Gln	Asp	Pro	Pro	Leu	Asp	Pro	His	Val
705					710					715					720
Asn	Arg	Ser	Ala	Leu	Ser	Gly	Ser	Arg	Ala	Leu	Ser	Asn	His	Ile	Leu
			725						730						735
Trp	Arg	Ser	Ala	Phe	Arg	Gly	Asn	Phe	Pro	Ala	Asn	Pro	Met	Arg	Pro
			740					745						750	
Pro	Asn	Leu	Gly	Asp	Ser	Arg	Asp	Cys	Gly	Ser	Glu	Phe	Asp	Glu	Glu
		755					760					765			
Leu	Ser	Leu	Thr	Ser	Ala	Ser	Asp	Gly	Ser	Gln	Thr	Glu	Pro	Asp	Phe
		770				775					780				
Arg	Tyr	Pro	Tyr	Ser	Glu	Leu	Met	Ile	Trp	Ala	Val	Leu	Thr	Lys	Arg
785					790					795					800
Gln	Asp	Met	Ala	Met	Cys	Met	Trp	Gln	His	Gly	Glu	Glu	Ala	Met	Ala
			805						810						815
Lys	Ala	Leu	Val	Ala	Cys	Arg	Leu	Tyr	Lys	Ser	Leu	Ala	Thr	Glu	Ala
			820					825						830	
Ala	Glu	Asp	Tyr	Leu	Glu	Val	Glu	Ile	Cys	Glu	Glu	Leu	Lys	Lys	Tyr
		835					840					845			
Ala	Glu	Glu	Phe	Arg	Ile	Leu	Ser	Leu	Glu	Leu	Leu	Asp	His	Cys	Tyr
	850					855					860				
His	Val	Asp	Asp	Ala	Gln	Thr	Leu	Gln	Leu	Leu	Thr	Tyr	Glu	Leu	Ser
865					870					875					880
Asn	Trp	Ser	Asn	Glu	Thr	Cys	Leu	Ala	Leu	Ala	Val	Ile	Val	Asn	Asn
			885						890						895
Lys	His	Phe	Leu	Ala	His	Pro	Cys	Cys	Gln	Ile	Leu	Leu	Ala	Asp	Leu
			900					905						910	
Trp	His	Gly	Gly	Leu	Arg	Met	Arg	Thr	His	Ser	Asn	Ile	Lys	Val	Val
		915					920					925			
Leu	Gly	Leu	Ile	Cys	Pro	Pro	Phe	Ile	Gln	Met	Leu	Glu	Phe	Lys	Thr
	930					935					940				
Arg	Glu	Glu	Leu	Leu	Asn	Gln	Pro	Gln	Thr	Ala	Ala	Glu	His	Gln	Asn
945					950					955					960
Asp	Met	Asn	Tyr	Ser	Ser	Ser	Ser	Ser	Ser	Ser	Ser	Ser	Ser	Ser	Ser
				965					970						975
Ser	Ser	Ser	Ser	Ser	Asp	Ser	Ser	Ser	Phe	Glu	Asp	Asp	Asp	Asp	Glu
			980					985						990	
Asn	Asn	Ala	His	Asn	His	Asp	Gln	Lys	Arg	Thr	Arg	Lys	Thr	Ser	Gln
		995					1000								
Gly	Ser	Ala	Gln	Ser	Leu	Asn	Ile	Thr	Ser	Leu	Phe	His	Ser	Arg	Arg
	1010					1015					1020				
Arg	Lys	Ala	Lys	Lys	Asn	Glu	Lys	Cys	Asp	Arg	Glu	Thr	Asp	Ala	Ser

-27-

1025		1030		1035		104
Ala Cys Glu Ala Gly Asn Arg Gln Ile Gln Asn Gly Gly Leu Thr Ala						
	1045			1050		1055
Glu Tyr Gly Thr Phe Gly Glu Ser Asn Gly Val Ser Pro Pro Pro Pro						
	1060			1065		1070
Tyr Met Arg Ala Asn Ser Arg Ser Arg Tyr Asn Asn Arg Ser Asp Met						
	1075			1080		1085
Ser Lys Thr Ser Ser Val Ile Phe Gly Ser Asp Pro Asn Leu Ser Lys						
	1090			1095		1100
Leu Gln Lys Ser Asn Ile Thr Ser Thr Asp Arg Pro Asn Pro Met Glu						
1105		1110		1115		112
Gln Phe Gln Gly Thr Arg Lys Ile Lys Met Arg Arg Arg Phe Tyr Glu						
	1125			1130		1135
Phe Tyr Ser Ala Pro Ile Ser Thr Phe Trp Ser Trp Thr Ile Ser Phe						
	1140			1145		1150
Ile Leu Phe Ile Thr Phe Phe Thr Tyr Thr Leu Leu Val Lys Thr Pro						
	1155			1160		1165
Pro Arg Pro Thr Val Ile Glu Tyr Ile Leu Ile Ala Tyr Val Ala Ala						
	1170			1175		1180
Phe Gly Leu Glu Gln Val Arg Lys Ile Ile Met Ser Asp Ala Lys Pro						
1185		1190		1195		120
Phe Tyr Glu Lys Ile Arg Thr Tyr Val Cys Ser Phe Trp Asn Cys Val						
	1205			1210		1215
Thr Ile Leu Ala Ile Ile Phe Tyr Ile Val Gly Phe Phe Met Arg Cys						
	1220			1225		1230
Phe Gly Ser Val Ala Tyr Gly Arg Val Ile Leu Ala Cys Asp Ser Val						
	1235			1240		1245
Leu Trp Thr Met Lys Leu Leu Asp Tyr Met Ser Val His Pro Lys Leu						
	1250			1255		1260
Gly Pro Tyr Val Thr Met Ala Gly Lys Met Ile Gln Asn Met Ser Tyr						
1265		1270		1275		128
Ile Ile Val Met Leu Val Val Thr Leu Leu Ser Phe Gly Leu Ala Arg						
	1285			1290		1295
Gln Ser Ile Thr Tyr Pro Asp Glu Thr Trp His Trp Ile Leu Val Arg						
	1300			1305		1310
Asn Ile Phe Leu Lys Pro Tyr Phe Met Leu Tyr Gly Glu Val Tyr Ala						
	1315			1320		1325
Asp Glu Ile Asp Thr Cys Gly Asp Glu Ala Trp Asp Gln His Leu Glu						
	1330			1335		1340
Asn Gly Gly Pro Val Ile Leu Gly Asn Gly Thr Thr Gly Leu Ser Cys						
1345		1350		1355		136
Val Pro Gly Tyr Trp Ile Pro Pro Leu Leu Met Thr Phe Phe Leu Leu						
	1365			1370		1375
Ile Ala Asn Ile Leu Leu Met Ser Met Leu Ile Ala Ile Phe Asn His						
	1380			1385		1390
Ile Phe Asp Ala Thr Asp Glu Met Ser Gln Gln Ile Trp Leu Phe Gln						
	1395			1400		1405
Arg Tyr Lys Gln Val Met Glu Tyr Glu Ser Thr Pro Phe Leu Pro Pro						
	1410			1415		1420
Pro Leu Thr Pro Leu Tyr His Gly Val Leu Ile Leu Gln Phe Val Arg						
1425		1430		1435		144
Thr Arg Leu Ser Cys Ser Lys Ser Gln Glu Arg Asn Pro Ile Leu Leu						
	1445			1450		1455
Leu Lys Ile Ala Glu Leu Phe Leu Asp Asn Asp Gln Ile Glu Lys Leu						
	1460			1465		1470
His Asp Phe Glu Glu Asp Cys Met Glu Asp Leu Ala Arg Gln Lys Leu						
	1475			1480		1485
Asn Glu Lys Asn Thr Ser Asn Glu Gln Arg Ile Leu Arg Ala Asp Ile						
	1490			1495		1500
Arg Thr Asp Gln Ile Leu Asn Arg Leu Ile Asp Leu Gln Ala Lys Glu						
1505		1510		1515		152

-28-

Ser Met Gly Arg Asp Val Ile Asn Asp Val Glu Ser Arg Leu Ala Ser
 1525 1530 1535
 Val Glu Lys Ala Gln Asn Glu Ile Leu Glu Cys Val Arg Ala Leu Leu
 1540 1545 1550
 Asn Gln Asn Asn Ala Pro Thr Ala Ile Gly Arg Cys Phe Ser Pro Ser
 1555 1560 1565
 Pro Asp Pro Leu Val Glu Thr Ala Asn Gly Thr Pro Gly Pro Leu Leu
 1570 1575 1580
 Leu Lys Leu Pro Gly Thr Asp Pro Ile Leu Glu Glu Lys Asp His Asp
 1585 1590 1595 160
 Ser Gly Glu Asn Ser Asn Ser Leu Pro Pro Gly Arg Ile Arg Arg Asn
 1605 1610 1615
 Arg Thr Ala Thr Ile Cys Gly Gly Tyr Val Ser Glu Glu Arg Asn Met
 1620 1625 1630
 Met Leu Leu Ser Pro Lys Pro Ser Asp Val Ser Gly Ile Pro Gln Gln
 1635 1640 1645
 Arg Leu Met Ser Val Thr Ser Met Asp Pro Leu Pro Leu Pro Leu Ala
 1650 1655 1660
 Lys Leu Ser Thr Met Ser Ile Arg Arg Arg His Glu Glu Tyr Thr Ser
 1665 1670 1675 168
 Ile Thr Asp Ser Ile Ala Ile Arg His Pro Glu Arg Arg Ile Arg Asn
 1685 1690 1695
 Asn Arg Ser Asn Ser Ser Glu His Asp Glu Ser Ala Val Asp Ser Glu
 1700 1705 1710
 Gly Gly Gly Asn Val Thr Ser Ser Pro Arg Lys Arg Ser Thr Arg Asp
 1715 1720 1725
 Leu Arg Met Thr Pro Ser Ser Gln Val Glu Glu Ser Thr Ser Arg Asp
 1730 1735 1740
 Gln Ile Phe Glu Ile Asp His Pro Glu His Glu Glu Asp Glu Ala Gln
 1745 1750 1755 176
 Ala Asp Cys Glu Leu Thr Asp Val Ile Thr Glu Glu Glu Asp Glu Glu
 1765 1770 1775
 Glu Asp Asp Glu Glu Asp Asp Ser His Glu Arg His His Ile His Pro
 1780 1785 1790
 Arg Arg Lys Ser Ser Arg Gln Asn Arg Gln Pro Ser His Thr Leu Glu
 1795 1800 1805
 Thr Asp Leu Ser Glu Gly Glu Glu Val Asp Pro Leu Asp Val Leu Lys
 1810 1815 1820
 Met Lys Glu Leu Pro Ile Ile His Gln Ile Leu Asn Glu Glu Glu Gln
 1825 1830 1835 184
 Ala Gly Ala Pro His Ser Thr Pro Val Ile Ala Ser Pro Ser Ser Ser
 1845 1850 1855
 Arg Ala Asp Leu Thr Ser Gln Lys Cys Ser Asp Val
 1860 1865

<210> 16

<211> 489

<212> DNA

<213> Mus Musculus

<400> 16

ccctgaaaga	ctcgacttct	gctgctagcg	ctggagctga	gtagttttg	agaaggtttc	60
ccggggctgt	ccttggtcgg	tggcccgtgc	caccgcctcc	ggagacgctt	tccgatagat	120
ggctgcaggc	cgcgagggtg	gaggaggagc	cgctgccctt	ccggagtcgc	ccccgtgagg	180
agaatgtccc	agaaatcctg	gatagagagc	actttgacca	agagggagtg	tgtatatatt	240
ataccaagct	ccaaagacct	tcacagatgt	cttcaggat	gtcagatttg	tcagcaactt	300
gtcagatggt	tctgtggtcg	tttggtcaag	caacatgcat	gctttactgc	aagtcttgcc	360
atgaaatact	cagatgtgaa	attgggtgaa	cactttaacc	aggcaataga	agaatggtct	420
gtggaaaagc	acacggagca	gagcccaaca	gatgcttatg	gagtcacaa	ttttcaaggg	480
ggttctcat						489

-29-

<210> 17
 <211> 102
 <212> PRT
 <213> Mus Musculus

<400> 17
 Met Ser Gln Lys Ser Trp Ile Glu Ser Thr Leu Thr Lys Arg Glu Cys
 1 5 10 15
 Val Tyr Ile Ile Pro Ser Ser Lys Asp Pro His Arg Cys Leu Pro Gly
 20 25 30
 Cys Gln Ile Cys Gln Gln Leu Val Arg Cys Phe Cys Gly Arg Leu Val
 35 40 45
 Lys Gln His Ala Cys Phe Thr Ala Ser Leu Ala Met Lys Tyr Ser Asp
 50 55 60
 Val Lys Leu Gly Glu His Phe Asn Gln Ala Ile Glu Glu Trp Ser Val
 65 70 75 80
 Glu Lys His Thr Glu Gln Ser Pro Thr Asp Ala Tyr Gly Val Ile Asn
 85 90 95
 Phe Gln Gly Gly Ser His
 100

<210> 18
 <211> 410
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> unsure
 <222> (6)...(6)

<221> unsure
 <222> (58)...(58)

<221> unsure
 <222> (89)...(89)

<221> unsure
 <222> (406)...(406)

<400> 18
 gccgcnggag cctgagcgga ggggtgtgcgc agcctcgcca gcggggggccc cgggctgngc 60
 cattgccctca ctgagccagc gcctgcctnc tacctcgccg acagctggaa ccagtgcgac 120
 ctagtggtct tcacctgctt cctcctgggc gtgggctgcc ggctgacccc gggtttgtac 180
 cacctgggccc gcaactgtcct ctgcatcgac ttcattggtt tcacgggtgcg gctgcttcac 240
 atcttcacgg tcaacaaaca gctggggccc aagatcgta tcgtgagcaa gatgatgaag 300
 gacgtgttct tcttctctt cttcctcggc gtgtggctgg tagctatggg ttgggccacg 360
 gaggggttcc tgaggccacg ggacagtgcac ttcccaagta tctgncgcc 410

<210> 19
 <211> 131
 <212> PRT
 <213> Homo Sapiens

<220>
 <221> UNSURE
 <222> (15)...(15)
 <223> UNKNOWN

<221> UNSURE
 <222> (25)...(25)
 <223> UNKNOWN

-30-

<221> UNSURE
 <222> (131)...(131)
 <223> UNKNOWN

<400> 19
 Ala Glu Gly Val Arg Ser Leu Ala Ser Gly Gly Pro Gly Leu Xaa His
 1 5 10 15
 Cys Leu Thr Glu Pro Ala Pro Ala Xaa Tyr Leu Ala Asp Ser Trp Asn
 20 25 30
 Gln Cys Asp Leu Val Ala Leu Thr Cys Phe Leu Leu Gly Val Gly Cys
 35 40 45
 Arg Leu Thr Pro Gly Leu Tyr His Leu Gly Arg Thr Val Leu Cys Ile
 50 55 60
 Asp Phe Met Val Phe Thr Val Arg Leu Leu His Ile Phe Thr Val Asn
 65 70 75 80
 Lys Gln Leu Gly Pro Lys Ile Val Ile Val Ser Lys Met Met Lys Asp
 85 90 95
 Val Phe Phe Phe Leu Phe Phe Leu Gly Val Trp Leu Val Ala Met Gly
 100 105 110
 Trp Ala Thr Glu Gly Phe Leu Arg Pro Arg Asp Ser Asp Phe Pro Ser
 115 120 125
 Ile Leu Xaa
 130

<210> 20
 <211> 389
 <212> DNA
 <213> Homo Sapiens

<400> 20
 caaattttttt gttagtacac catctcatcc aaattgcaaa agtcacatgg aaactggaac 60
 caaagatcaa gaaactgttt gctctaaagc tacagaagga gataatacag aatttgaggc 120
 atttgtagga cacagagata gcatggattt acagagggtt aaagaaacat caaacaagat 180
 aaaaatacta tccaataaca atacttctga aaacactttg aaacgagtga gttctcttgc 240
 tggatttact gactgtcaca gaacttccat tcctgttcat tcaaaacgag aaaagatcag 300
 tagaaggcca tctaccgaag acactcatga agtagattcc aaagcagctt taataccggt 360
 ttgtagattt caactaaaca gatatatat 389

<210> 21
 <211> 415
 <212> DNA
 <213> Homo Sapiens

<400> 21
 atttctagtt tttcaaattt gccagtcttt ttgaatagta tctccttctt ttctcatggt 60
 ttatatattaa aactttttta tgtccatcat cactttaaac atacttattt tgtcatctat 120
 aaccaataat tccactatct taccagaaat caaataccgt ttatgtaagt tgactcccat 180
 gagttctaaa ttgccattgt gaggtcatct tcggttaggc ttttaatttg tgcaaagttg 240
 tgcagctcag ggtcaggaag agtccctcca gaaaggagga tttgttactg tgaatctctt 300
 tgtaactaa cctctttccc cactgaaata acttttttca ataacatgat tttacaaca 360
 taatctctct atgccagaac agatatatat gaatgtaagt caatattttc ttgag 415

<210> 22
 <211> 405
 <212> DNA
 <213> Mus Musculus

<400> 22
 ttattatggc ttatcatgaa aaaccagtcc tgcctcctcc tcttatcatc ctcagccata 60
 tagtttctact gttttgctgt gtatgcaaaa gaagaaagaa agataagact tccgatgggc 120

-31-

caaaactttt	cttaacagaa	gaagatcaaa	agaaactcca	tgattttgaa	gagcagtgtg	180
ttgagatgta	ctttgatgag	aaagatgaca	aattcaattc	tgggagtgaa	gagagaatcc	240
gggtcacttt	tgaaagagt	gagcagatga	gcattcagat	taaagaagtt	ggagatcgtg	300
tcaactacat	aaaaagatca	ttacagtctt	tagattctca	aattgggtcat	ctgcaagatc	360
tctcagccct	aacagtagat	acattgaaaa	cacttacagc	ccaga		405

<210> 23
 <211> 5117
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> unsure
 <222> (2382)... (2382)
 <223> unknown

<221> unsure
 <222> (4664)... (4664)
 <223> unknown

<221> unsure
 <222> (4682)... (4682)
 <223> unknown

<221> unsure
 <222> (4702)... (4702)
 <223> unknown

<221> unsure
 <222> (5038)... (5039)
 <223> unknown

<221> unsure
 <222> (5056)... (5056)
 <223> unknown

<221> unsure
 <222> (5071)... (5072)

<400> 23						
gatggcaaca	tggtgaagaa	tcaatggcta	aagcattagt	tgacctgtaag	atctatcggt	60
caatggcata	tgaagcaaag	cagagtgaac	tggtagatga	tacttcagaa	gaactaaaac	120
agtattccaa	tgattttggt	cagttggccg	ttgaattatt	agaacagtcc	ttcagacaag	180
atgaaaccat	ggctatgaaa	ttgctcactt	atgaactgaa	gaactggagt	aattcaacct	240
gccttaagtt	agcagtttct	tcaagactta	gaccttttgt	agctcacacc	tgtacacaaa	300
tgttgttatc	tgatatgtgg	atgggaaggc	tgaatatgag	gaaaaattcc	tggtacaagg	360
tcatactaag	catttttagtt	ccacctgcca	tattgctggt	agagtataaa	actaaggctg	420
aaatgtccca	tatcccacaa	tctcaagatg	ctcatcagat	gacaatggat	gacagcgaaa	480
acaactttca	gaacataaca	gaagagatcc	ccatggaagt	gtttaaagaa	gtacggattt	540
tgatagtaa	tgaaggaaag	aatgagatgg	agatacaaat	gaaatcaaaa	aagcttccaa	600
ttacgcgaaa	gttttatgcc	ttttatcatg	caccaattgt	aaaattctgg	tttaacacgt	660
tgcatatatt	aggatttctg	atgctttata	catttggtgt	tcttgtaaaa	atggaacagt	720
taccttcagt	tcaagaatgg	attgttattg	cttatatttt	tacttatgcc	attgagaaag	780
tccgtgagat	ctttatgtct	gaagctggga	aagtaaacca	gaagattaaa	gtatgggtta	840
gtgattactt	caacatcagt	gatacaattg	ccataatttc	tttcttcatt	ggatttggac	900
taagatttgg	agcaaaatgg	aactttgcaa	atgcatatga	taatcatggt	tttgtggctg	960
gaagattaat	ttactgtctt	aacataatat	tttggtatgt	gcgtttgcta	gattttctag	1020
ctgtaaatca	acaggcagga	ccttatgtaa	tgatgattgg	aaaaatggtg	gccaatatgt	1080
tctacattgt	agtgattatg	gctcttgat	tacttagttt	tggtgttccc	agaaaggcaa	1140
tactttatcc	tcatgaagca	ccatcttgga	ctcttgctaa	agatatagtt	tttcacccat	1200
actggatgat	ttttggtgaa	gtttatgcat	acgaaattga	tgtgtgtgca	aatgattctg	1260

-32-

ttatccctca	aatctgtggt	cctgggacgt	ggttgactcc	attttttcaa	gcagtctacc	1320
tctttgtaca	gtatatcatt	atggttaatc	ttcttattgc	attttttcaac	aatgtgtatt	1380
tacaagtga	ggcaatttcc	aatattgtat	ggaagtacca	gcgttatcat	tttattatgg	1440
cttatcatga	gaaaccagtt	ctgcctcctc	cacttatcat	tcttagccat	atagtttctc	1500
tggtttgtctg	catatgtaag	agaagaaaga	aagataagac	ttccgatgga	ccaaaaacttt	1560
tcttaacaga	agaagatcaa	aagaaaacttc	atgattttga	agagcagtg	gttgaaatgt	1620
atttcaatga	aaaagatgac	aaatttcatt	ctgggagtga	agagagaatt	cgtgtcactt	1680
ttgaaagagt	ggaacagatg	tgcatcaga	ttaaagaagt	tggagatcgt	gtcaactaca	1740
taaaaagatc	attacaatca	ttagattctc	aaattggcca	tttgcaagat	ctttcagccc	1800
tgacggtaga	tacattaaaa	acactcactg	cccagaaaagc	gtcggaaagct	agcaaaagtct	1860
ataatgaaat	cacacgagaa	ctgagcattt	ccaaacactt	ggctcaaaac	cttattgatg	1920
atgggtcctgt	aagaccttct	gtatggaaaa	agcatgggtg	tgtaaatata	cttagctcct	1980
ctcttcctca	aggtgatctt	gaaagtaata	atccttttca	ttgtaatat	ttaatgaaag	2040
atgacaaaaga	tccccagtg	aatatatttg	gtcaagactt	acctgcagta	ccccagagaa	2100
aagaatttaa	ttttccagag	gctggttcct	cttctgggtg	cttattccca	agtgtctgtt	2160
cccctccata	agactacatg	agactacatg	gggtagaact	cttaaaaaata	tttaaaaaaa	2220
atcaaaaaatt	aggcagttca	tctactagca	taccacatct	gtcatcccca	ccaaccaaat	2280
tttttgtag	tacaccatct	cagccaagtt	gcaaaagcca	cttggaact	ggaaccaag	2340
atcaagaaac	tggttgctct	aaagctacag	aaggagataa	tncagaattt	ggagcatttg	2400
taggacacag	agatagcatg	gatttacaga	ggtttaaga	aacatcaaac	aagataaaaa	2460
tactatccaa	taacaatact	tctgaaaaaca	ctttgaaacg	agtgaattct	cttgctggat	2520
ttactgactg	tcacagaact	tccattcctg	ttcattccaa	acaagcagaa	aaaatcagta	2580
gaaggccatc	taccgaagac	actcatgaag	tgatttccaa	agcagcttta	ataccggatt	2640
ggttacaaga	tagaccatca	aacagagaaa	tgccatctga	agaaggaaca	ttaaatggtc	2700
tcacttctcc	atttaagcca	gctatggata	caaattacta	ttattcagct	gtggaaagaa	2760
ataacttgat	gaggttatca	cagagcattc	catttacacc	tgtgcctcca	agaggggagc	2820
ctgtcacagt	gtatcgtttg	gaagagagtt	cacccaacat	actaaataac	agcatgtctt	2880
cttggtcaca	actaggcctc	tgtgccaaaa	tagagttttt	aagcaaagag	gagatgggag	2940
gaggtttacg	aagagctgtc	aaagtacagt	gtacctggtc	agaacatgat	atcctcaaat	3000
cagggcctac	ttatattatc	aaatcttttc	ttccagaggt	ggtttaataca	tggtcaagta	3060
tttataaaga	agatacagtt	ctgcatctct	gtctgagaga	aattcaacaa	cagagcagag	3120
cacaaaagct	tacgtttgcc	tttaatcaaa	tgaaacccaa	atccatacca	tattctccaa	3180
ggttccttga	agttttcctg	ctgtattgcc	attcagcagg	acagtgggtt	gctgtggaag	3240
aatgtatgac	tggagaattt	agaaaaataca	acaataataa	tggagatgag	attattccaa	3300
ctaatactct	ggaagagatc	atgctagcct	ttagccactg	gacttacgaa	tatacaagag	3360
gggagttact	ggtacttgat	ttgcaagggtg	ttggtgaaaa	tttgactgac	ccatctgtga	3420
taaaagcaga	agaaaagaga	tcctgtgata	tggttttttg	cccagcaaat	ctaggagaag	3480
atgcaattaa	aaacttcaga	gcaaaacatc	actgtaattc	ttgctgtaga	aagcttaaac	3540
ttccagatct	gaagaggaat	gattataacg	ctgataaaat	tatatctcct	caggtatgag	3600
cttcagattt	gaatcttcag	cctggaaatt	ccaccaaaaga	atcagaatca	gctaattctg	3660
ttcgtctgat	gttataatat	taatattact	gaatcattgg	ttttgcctgc	acctcacaga	3720
aatgttactg	tgtaactttt	ccctcgggag	gaaattgttt	ggtaatatag	aaaggtgtat	3780
gcaagttgaa	tttgctgact	ccagcacagt	taaaagggtca	atattctttt	gacctgatta	3840
atcagtcaga	aagtccttat	aggatagagc	tggcagctga	gaaattttta	aggtaattga	3900
taattagtat	ttgtaacttt	ttaaagggtc	ctttgtatag	cagaggatct	catttgactt	3960
tgttttgatg	aggggtgatg	cctctcttat	gtggtacaat	accattaacc	aaaggtaggt	4020
gtccatgcag	attttatttg	cagctgtttt	attgccattc	aactaggga	atgaagaaat	4080
cagcagcct	tttggttaaa	tggcagtc	aattttcttc	agtgtattta	gtgtgttcag	4140
tgatgatata	actgggtccc	aactagatgc	ttgttgccca	cgggaaggga	aatgacttgt	4200
tctaattcta	ggttcacaga	ggtatgagaa	gcctgaactg	aagaccattt	tcaagaggga	4260
cggtatttat	gaatcagggt	taggctccat	atttaaagat	agagccagtt	ttttttttaa	4320
atagaacca	aattgtgtaa	aaatgttaat	tgggtttttt	aaacattggt	ttatcaagtc	4380
actgttaagt	agaagaaagc	catggtaaac	tgatacataa	cctaaattat	aaaagcagaa	4440
acctaaactca	ctcgtcaagg	gaagttacct	tttgaggaaa	gttaaagtac	ttttttccct	4500
atctgtatct	atagcaacaa	cccagaactt	acaaacttct	ccaaagattt	tattgattgt	4560
tatatcaaat	cagaatgtaa	acatgaactc	ttgcataat	ttaaaattgt	gttggaaacat	4620
ttgaacatga	atgctgtttg	ggtacttaag	aaattrattc	agtnggatta	tcattatgtg	4680
anactggcag	attgcagtg	anccttatgc	caataaaatg	taatttaaca	gccccagata	4740
ttgttgaata	ttcaacaata	acaagaaaag	cttttcatct	aagttttatg	ctttaatttt	4800
ttttcttttt	ttttcttttt	cttttgtttc	cttggtacta	attttaattt	ttatttgtaa	4860
gggagcagta	taaagcttat	ttgtatttag	tagtgtatct	catagatata	gacaaggcaa	4920

-33-

gagatgataa gctgttttaa tagtggttaa tattgattgg ggggtggggag aaagaaaaag 4980
 tgtattactt aaagatacta tatacgtttt gtatatcatt aaatctttta aagaaatnna 5040
 ataaatttat tgtttncaaa aaaaaaaccc nntaaaaaaa aaagggcggc ccctctagag 5100
 gatccctcga ggggccc 5117

<210> 24
 <211> 1224
 <212> PRT
 <213> Homo Sapiens

<220>
 <221> UNSURE
 <222> (794)...(794)
 <223> UNKNOWN

<400> 24
 Trp Gln His Gly Glu Glu Ser Met Ala Lys Ala Leu Val Ala Cys Lys
 1 5 10 15
 Ile Tyr Arg Ser Met Ala Tyr Glu Ala Lys Gln Ser Asp Leu Val Asp
 20 25 30
 Asp Thr Ser Glu Glu Leu Lys Gln Tyr Ser Asn Asp Phe Gly Gln Leu
 35 40 45
 Ala Val Glu Leu Leu Glu Gln Ser Phe Arg Gln Asp Glu Thr Met Ala
 50 55 60
 Met Lys Leu Leu Thr Tyr Glu Leu Lys Asn Trp Ser Asn Ser Thr Cys
 65 70 75 80
 Leu Lys Leu Ala Val Ser Ser Arg Leu Arg Pro Phe Val Ala His Thr
 85 90 95
 Cys Thr Gln Met Leu Leu Ser Asp Met Trp Met Gly Arg Leu Asn Met
 100 105 110
 Arg Lys Asn Ser Trp Tyr Lys Val Ile Leu Ser Ile Leu Val Pro Pro
 115 120 125
 Ala Ile Leu Leu Leu Glu Tyr Lys Thr Lys Ala Glu Met Ser His Ile
 130 135 140
 Pro Gln Ser Gln Asp Ala His Gln Met Thr Met Asp Asp Ser Glu Asn
 145 150 155 160
 Asn Phe Gln Asn Ile Thr Glu Glu Ile Pro Met Glu Val Phe Lys Glu
 165 170 175
 Val Arg Ile Leu Asp Ser Asn Glu Gly Lys Asn Glu Met Glu Ile Gln
 180 185 190
 Met Lys Ser Lys Lys Leu Pro Ile Thr Arg Lys Phe Tyr Ala Phe Tyr
 195 200 205
 His Ala Pro Ile Val Lys Phe Trp Phe Asn Thr Leu Ala Tyr Leu Gly
 210 215 220
 Phe Leu Met Leu Tyr Thr Phe Val Val Leu Val Gln Met Glu Gln Leu
 225 230 235 240
 Pro Ser Val Gln Glu Trp Ile Val Ile Ala Tyr Ile Phe Thr Tyr Ala
 245 250 255
 Ile Glu Lys Val Arg Glu Ile Phe Met Ser Glu Ala Gly Lys Val Asn
 260 265 270
 Gln Lys Ile Lys Val Trp Phe Ser Asp Tyr Phe Asn Ile Ser Asp Thr
 275 280 285
 Ile Ala Ile Ile Ser Phe Phe Ile Gly Phe Gly Leu Arg Phe Gly Ala
 290 295 300
 Lys Trp Asn Phe Ala Asn Ala Tyr Asp Asn His Val Phe Val Ala Gly
 305 310 315 320
 Arg Leu Ile Tyr Cys Leu Asn Ile Ile Phe Trp Tyr Val Arg Leu Leu
 325 330 335
 Asp Phe Leu Ala Val Asn Gln Gln Ala Gly Pro Tyr Val Met Met Ile
 340 345 350
 Gly Lys Met Val Ala Asn Met Phe Tyr Ile Val Val Ile Met Ala Leu

-34-

355	360	365
Val Leu Leu Ser Phe Gly	Val Pro Arg Lys Ala Ile	Leu Tyr Pro His
370	375	380
Glu Ala Pro Ser Trp Thr	Leu Ala Lys Asp Ile	Val Phe His Pro Tyr
385	390	395
Trp Met Ile Phe Gly	Glu Val Tyr Ala Tyr	Glu Ile Asp Val Cys Ala
405	410	415
Asn Asp Ser Val Ile Pro	Gln Ile Cys Gly Pro	Gly Thr Trp Leu Thr
420	425	430
Pro Phe Leu Gln Ala Val	Tyr Leu Phe Val Gln	Tyr Ile Ile Met Val
435	440	445
Asn Leu Leu Ile Ala Phe	Phe Asn Asn Val Tyr	Leu Gln Val Lys Ala
450	455	460
Ile Ser Asn Ile Val Trp	Lys Tyr Gln Arg Tyr	His Phe Ile Met Ala
465	470	475
Tyr His Glu Lys Pro Val	Leu Pro Pro Pro	Leu Ile Ile Leu Ser His
485	490	495
Ile Val Ser Leu Phe Cys	Cys Cys Ile Cys Lys	Arg Arg Lys Lys Asp Lys
500	505	510
Thr Ser Asp Gly Pro Lys	Leu Phe Leu Thr Glu	Glu Asp Gln Lys Lys
515	520	525
Leu His Asp Phe Glu Glu	Gln Cys Val Glu Met	Tyr Phe Asn Glu Lys
530	535	540
Asp Asp Lys Phe His Ser	Gly Ser Glu Glu Arg	Ile Arg Val Thr Phe
545	550	555
Glu Arg Val Glu Gln Met	Cys Ile Gln Ile Lys	Glu Val Gly Asp Arg
565	570	575
Val Asn Tyr Ile Lys Arg	Ser Leu Gln Ser Leu	Asp Ser Gln Ile Gly
580	585	590
His Leu Gln Asp Leu Ser	Ala Leu Thr Val Asp	Thr Leu Lys Thr Leu
595	600	605
Thr Ala Gln Lys Ala Ser	Glu Ala Ser Lys Val	His Asn Glu Ile Thr
610	615	620
Arg Glu Leu Ser Ile Ser	Lys His Leu Ala Gln	Asn Leu Ile Asp Asp
625	630	635
Gly Pro Val Arg Pro Ser	Val Trp Lys Lys His	Gly Val Val Asn Thr
645	650	655
Leu Ser Ser Ser Leu Pro	Gln Gly Asp Leu Glu	Ser Asn Asn Pro Phe
660	665	670
His Cys Asn Ile Leu Met	Lys Asp Asp Lys Asp	Pro Gln Cys Asn Ile
675	680	685
Phe Gly Gln Asp Leu Pro	Ala Val Pro Gln Arg	Lys Glu Phe Asn Phe
690	695	700
Pro Glu Ala Gly Ser Ser	Ser Ser Gly Ala Leu	Phe Pro Ser Ala Val Ser
705	710	715
Pro Pro Glu Leu Arg Gln	Arg Leu His Gly Val	Glu Leu Leu Lys Ile
725	730	735
Phe Asn Lys Asn Gln Lys	Leu Gly Ser Ser Thr	Ser Ile Pro His
740	745	750
Leu Ser Ser Pro Pro Thr	Lys Phe Val Ser Thr	Pro Ser Gln Pro
755	760	765
Ser Cys Lys Ser His Leu	Glu Thr Gly Thr Lys	Asp Gln Glu Thr Val
770	775	780
Cys Ser Lys Ala Thr Glu	Gly Asp Asn Xaa Glu	Phe Gly Ala Phe Val
785	790	795
Gly His Arg Asp Ser Met	Asp Leu Gln Arg Phe	Lys Glu Thr Ser Asn
805	810	815
Lys Ile Lys Ile Leu Ser	Asn Asn Asn Thr Ser	Glu Asn Thr Leu Lys
820	825	830
Arg Val Ser Ser Leu Ala	Gly Phe Thr Asp Cys	His Arg Thr Ser Ile
835	840	845

Pro Val His Ser Lys Gln Ala Glu Lys Ile Ser Arg Arg Pro Ser Thr
850 855 860
Glu Asp Thr His Glu Val Asp Ser Lys Ala Ala Leu Ile Pro Asp Trp
865 870 875 880
Leu Gln Asp Arg Pro Ser Asn Arg Glu Met Pro Ser Glu Glu Gly Thr
885 890 895
Leu Asn Gly Leu Thr Ser Pro Phe Lys Pro Ala Met Asp Thr Asn Tyr
900 905 910
Tyr Tyr Ser Ala Val Glu Arg Asn Asn Leu Met Arg Leu Ser Gln Ser
915 920 925
Ile Pro Phe Thr Pro Val Pro Pro Arg Gly Glu Pro Val Thr Val Tyr
930 935 940
Arg Leu Glu Glu Ser Ser Pro Asn Ile Leu Asn Asn Ser Met Ser Ser
945 950 955 960
Trp Ser Gln Leu Gly Leu Cys Ala Lys Ile Glu Phe Leu Ser Lys Glu
965 970 975
Glu Met Gly Gly Gly Leu Arg Arg Ala Val Lys Val Gln Cys Thr Trp
980 985 990
Ser Glu His Asp Ile Leu Lys Ser Gly His Leu Tyr Ile Ile Lys Ser
995 1000 1005
Phe Leu Pro Glu Val Val Asn Thr Trp Ser Ser Ile Tyr Lys Glu Asp
1010 1015 1020
Thr Val Leu His Leu Cys Leu Arg Glu Ile Gln Gln Gln Arg Ala Ala
1025 1030 1035 104
Gln Lys Leu Thr Phe Ala Phe Asn Gln Met Lys Pro Lys Ser Ile Pro
1045 1050 1055
Tyr Ser Pro Arg Phe Leu Glu Val Phe Leu Leu Tyr Cys His Ser Ala
1060 1065 1070
Gly Gln Trp Phe Ala Val Glu Glu Cys Met Thr Gly Glu Phe Arg Lys
1075 1080 1085
Tyr Asn Asn Asn Asn Gly Asp Glu Ile Ile Pro Thr Asn Thr Leu Glu
1090 1095 1100
Glu Ile Met Leu Ala Phe Ser His Trp Thr Tyr Glu Tyr Thr Arg Gly
1105 1110 1115 112
Glu Leu Leu Val Leu Asp Leu Gln Gly Val Gly Glu Asn Leu Thr Asp
1125 1130 1135
Pro Ser Val Ile Lys Ala Glu Glu Lys Arg Ser Cys Asp Met Val Phe
1140 1145 1150
Gly Pro Ala Asn Leu Gly Glu Asp Ala Ile Lys Asn Phe Arg Ala Lys
1155 1160 1165
His His Cys Asn Ser Cys Cys Arg Lys Leu Lys Leu Pro Asp Leu Lys
1170 1175 1180
Arg Asn Asp Tyr Thr Pro Asp Lys Ile Ile Phe Pro Gln Asp Glu Pro
1185 1190 1195 120
Ser Asp Leu Asn Leu Gln Pro Gly Asn Ser Thr Lys Glu Ser Glu Ser
1205 1210 1215
Ala Asn Ser Val Arg Leu Met Leu
1220

<210> 25
<211> 2180
<212> DNA
<213> Homo Sapiens

<400> 25
tcgaggccaa gaattcggca cgagggcctc gggcaggccc cctggagcga cctgcttctt 60
tgggcactgt tgctgaacag ggcacagatg gccatgtact tctgggagat gggttccaat 120
gcagtttctt cagctcttgg ggcctgtttg ctgctccggg tgatggcacg cctggagcct 180
gacgctgagg aggcagcacg gaggaagac ctggcggtta agtttgaggg gatgggcgtt 240
gacctctttg gcgagtgtta tcgcagcagt gaggtgaggg ctgccgcct cctcctccgt 300
cgctgcccgc tctgggggga tgccacttgc ctccagctgg ccatgcaagc tgacgcccgt 360

-36-

gccttctttg	cccaggatgg	ggtacagtct	ctgctgacac	agaagtgggtg	gggagatatg	420
gccagcacta	caccatctg	ggccctggtt	ctcgcttct	tttgcctcc	actcatctac	480
acccgcctca	tcaccttcag	gaaatcagaa	gaggagccca	cacgggagga	gctagagttt	540
gacatggata	gtgtcattaa	tggggaagg	cctgtcggga	cggcggaccc	agccgagaag	600
acgcgcgtgg	gggtcccgcg	ccagtcgggc	cgtcggggtt	gctgcggggg	ccgctgcggg	660
gggcgcgggt	gcctacgcgg	ctggttccac	ttctggggcg	cgcgggtgac	catcttcatg	720
ggcaacgtgg	tcagctacct	gctgttctct	ctgcttttct	cgcgggtgct	gctcgtggat	780
ttccagccgg	cgcgcgccgg	ctccctggag	ctgctgctct	atttctgggc	tttcacgctg	840
ctgtgcgagg	aactgcgcca	gggcctgagc	ggaggcgggg	gcagcctcgc	cagcgggggc	900
ccggggcctg	gccatgcctc	actgagccag	cgcctgcgcc	tctacctcgc	cgacagctgg	960
aaccagtgcg	acctagtggc	tctcacctgc	ttctctctgg	gcgtgggctg	ccggctgacc	1020
ccgggtttgt	accacctggg	ccgcactgtc	ctctgcatcg	acttcatggg	tttcacgggtg	1080
cggctgcttc	acatcttcac	ggtcaacaaa	cagctggggc	ccaagatcgt	catcgtgagc	1140
aagatgatga	aggacgtgtt	cttcttctct	ttcttctctg	gcgtgtggct	ggtagcctat	1200
ggcgtggcca	cggaggggct	cctgaggcca	cgggacagtg	acttcccaag	tatcctgcgc	1260
cgcgtcttct	accgtcccta	cctgcagatc	ttcgggcaga	ttccccagga	ggacatggac	1320
gtggccctca	tggagcacag	caactgctcg	tccgagcccg	gcttctgggc	acaccctcct	1380
ggggcccagg	cgggcacctg	cgtctcccag	tatgccaact	ggctgggtgg	gctgctcctc	1440
gtcatcttcc	tgctcgtggc	caacatcctg	ctgggtcaact	tgctcattgc	catgttcagt	1500
tacacattcg	gcaaagtaca	gggcaacagc	gatctctact	ggaaggcgca	gcgttaccgc	1560
ctcatccggg	aattccactc	tccgcccgcg	ctggccccgc	cctttatcgt	catctcccac	1620
ttgcgcctcc	tgctcaggca	attgtgcagg	cgaccscgga	gccccagcc	gtcctccccg	1680
gccctcgagc	atttccgggt	ttacctttct	aagggaagccg	agcgggaagct	gctaactgtg	1740
gaatcgggtg	ataaggagaa	ctttctgctg	gcacgcgcta	gggacaagcg	ggagagcgac	1800
tccgagmgtc	tgaagcgcac	gtcccagaag	gtggacttgg	caactgaaaca	gctgggacac	1860
atccgcgagt	acgaacagcg	cctgaaaagt	ctggagcggg	aggtccagca	gtgtacctcg	1920
gcccccgcac	ctgggtggcct	tgtccttgag	gtgagcccca	tgctccatctg	ggccactgtc	1980
aggaccacct	ttgggagtg	catccttaca	aaccacagca	tgcccggctc	ctcccagaac	2040
cagtcccagc	ctgggaggat	caaggcctgg	atcccrggcc	gttatccatc	tgaggagctgc	2100
agggtccttg	gggtaacagg	gaccacagac	ccctcaccac	tcacagattc	ctcacactgg	2160
ggaaataaag	ccatttcaga					2180

<210> 26
 <211> 725
 <212> PRT
 <213> Homo Sapiens

<220>
 <221> UNSURE
 <222> (553)...(553)
 <223> UNKNOWN

<221> UNSURE
 <222> (603)...(603)
 <223> UNKNOWN

<400> 26

Ser	Arg	Pro	Arg	Ile	Arg	His	Glu	Gly	Leu	Gly	Gln	Ala	Pro	Trp	Ser
1				5					10					15	
Asp	Leu	Leu	Leu	Trp	Ala	Leu	Leu	Leu	Asn	Arg	Ala	Gln	Met	Ala	Met
			20					25					30		
Tyr	Phe	Trp	Glu	Met	Gly	Ser	Asn	Ala	Val	Ser	Ser	Ala	Leu	Gly	Ala
		35					40					45			
Cys	Leu	Leu	Leu	Arg	Val	Met	Ala	Arg	Leu	Glu	Pro	Asp	Ala	Glu	Glu
		50				55					60				
Ala	Ala	Arg	Arg	Lys	Asp	Leu	Ala	Phe	Lys	Phe	Glu	Gly	Met	Gly	Val
65				70					75					80	
Asp	Leu	Phe	Gly	Glu	Cys	Tyr	Arg	Ser	Ser	Glu	Val	Arg	Ala	Ala	Arg
			85					90					95		
Leu	Leu	Leu	Arg	Arg	Cys	Pro	Leu	Trp	Gly	Asp	Ala	Thr	Cys	Leu	Gln
			100					105					110		

-37-

Leu 115	Ala 130	Met 145	Gln 150	Ala 160	Asp 175	Ala 185	Arg 190	Ala 205	Phe 220	Phe 235	Ala 250	Gln 265	Asp 280	Gly 295	Val 310
Gln 130	Ser 145	Leu 150	Leu 165	Thr 180	Gln 195	Lys 210	Trp 225	Trp 240	Gly 255	Asp 270	Met 285	Ala 300	Ser 315	Thr 330	Thr 345
Pro 145	Ile 160	Trp 175	Ala 180	Leu 190	Val 205	Leu 220	Ala 235	Phe 250	Phe 265	Cys 280	Pro 295	Pro 310	Leu 325	Ile 340	Tyr 355
Thr 160	Arg 175	Leu 180	Ile 190	Thr 205	Phe 220	Arg 235	Lys 250	Ser 265	Glu 280	Glu 295	Glu 310	Pro 325	Thr 340	Arg 355	Glu 370
Glu 180	Leu 195	Glu 210	Phe 225	Asp 240	Met 255	Asp 270	Ser 285	Val 300	Ile 315	Asn 330	Gly 345	Glu 360	Gly 375	Pro 390	Val 405
Gly 195	Thr 210	Ala 225	Asp 240	Pro 255	Ala 270	Glu 285	Lys 300	Thr 315	Pro 330	Leu 345	Gly 360	Val 375	Pro 390	Arg 405	Gln 420
Ser 210	Gly 225	Arg 240	Pro 255	Gly 270	Cys 285	Cys 300	Gly 315	Gly 330	Arg 345	Cys 360	Gly 375	Gly 390	Arg 405	Arg 420	Cys 435
Leu 225	Arg 240	Arg 255	Trp 270	Phe 285	His 300	His 315	Trp 330	Gly 345	Ala 360	Pro 375	Val 390	Thr 405	Ile 420	Phe 435	Met 450
Gly 245	Asn 260	Val 275	Val 290	Ser 305	Tyr 320	Leu 335	Leu 350	Phe 365	Leu 380	Leu 395	Leu 410	Phe 425	Ser 440	Arg 455	Val 470
Leu 260	Leu 275	Val 290	Asp 305	Phe 320	Gln 335	Pro 350	Ala 365	Pro 380	Pro 395	Gly 410	Ser 425	Leu 440	Glu 455	Glu 470	Leu 485
Leu 275	Tyr 290	Phe 305	Trp 320	Ala 335	Phe 350	Thr 365	Leu 380	Leu 395	Cys 410	Glu 425	Glu 440	Leu 455	Arg 470	Gln 485	Gly 500
Leu 290	Ser 305	Gly 320	Gly 335	Gly 350	Gly 365	Ser 380	Leu 395	Ala 410	Ser 425	Gly 440	Gly 455	Pro 470	Gly 485	Pro 500	Gly 515
His 305	Ala 320	Ser 335	Leu 350	Ser 365	Gln 380	Arg 395	Leu 410	Arg 425	Leu 440	Tyr 455	Leu 470	Ala 485	Asp 500	Ser 515	Trp 530
Asn 325	Gln 340	Cys 355	Asp 370	Leu 385	Val 400	Ala 415	Leu 430	Thr 445	Cys 460	Phe 475	Leu 490	Leu 505	Gly 520	Val 535	Gln 550
Cys 340	Arg 355	Leu 370	Thr 385	Pro 400	Gly 415	Leu 430	Tyr 445	His 460	Leu 475	Gly 490	Arg 505	Thr 520	Val 535	Leu 550	Ile 565
Ile 355	Asp 370	Phe 385	Met 400	Val 415	Phe 430	Thr 445	Val 460	Arg 475	Leu 490	Leu 505	His 520	Ile 535	Met 550	Thr 565	Lys 580
Asn 370	Lys 385	Gln 400	Leu 415	Gly 430	Pro 445	Lys 460	Ile 475	Val 490	Ile 505	Val 520	Ser 535	Val 550	Met 565	Arg 580	Asn 595
Asp 385	Val 400	Phe 415	Phe 430	Phe 445	Leu 460	Phe 475	Phe 490	Leu 505	Gly 520	Val 535	Val 550	Trp 565	Trp 580	Ala 595	Gly 610
Gly 405	Val 420	Ala 435	Thr 450	Glu 465	Gly 480	Leu 495	Leu 510	Arg 525	Pro 540	Pro 555	Arg 570	Ser 585	Asp 600	Phe 615	Val 630
Ser 420	Ile 435	Leu 450	Arg 465	Arg 480	Val 495	Phe 510	Tyr 525	Arg 540	Pro 555	Tyr 570	Leu 585	Gln 600	Ile 615	Gly 630	Thr 645
Gln 435	Ile 450	Pro 465	Gln 480	Glu 495	Asp 510	Met 525	Asp 540	Val 555	Ala 570	Ala 585	Leu 600	Met 615	Glu 630	His 645	Asn 660
Cys 450	Ser 465	Ser 480	Glu 495	Pro 510	Gly 525	Phe 540	Trp 555	Ala 570	His 585	Pro 600	Pro 615	Gly 630	Ala 645	Gln 660	Ala 675
Gly 465	Thr 480	Cys 495	Val 510	Ser 525	Gln 540	Tyr 555	Ala 570	Asn 585	Trp 600	Leu 615	Val 630	Val 645	Leu 660	Leu 675	Leu 690
Val 485	Ile 500	Phe 515	Leu 530	Leu 545	Val 560	Ala 575	Asn 590	Ile 605	Leu 620	Leu 635	Val 650	Asn 665	Leu 680	Leu 695	Ile 710
Ala 500	Met 515	Phe 530	Ser 545</												

-38-

595	600	605
Gln Lys Val Asp Leu Ala Leu Lys Gln Leu Gly His Ile Arg Glu Tyr		
610	615	620
Glu Gln Arg Leu Lys Val Leu Glu Arg Glu Val Gln Gln Cys Thr Ser		
625	630	635
Ala Pro Ala Pro Gly Gly Leu Val Leu Glu Val Ser Pro Met Ser Ile		
645	650	655
Trp Ala Thr Val Arg Thr Thr Phe Gly Ser Val Ile Leu Thr Asn His		
660	665	670
Ser Met Pro Gly Ser Ser Gln Asn Gln Ser Gln Pro Gly Arg Ile Lys		
675	680	685
Ala Trp Ile Pro Gly Arg Tyr Pro Ser Gly Gly Cys Arg Val Leu Gly		
690	695	700
Val Thr Gly Thr Thr Asp Pro Ser Pro Leu Thr Asp Ser Ser His Trp		
705	710	715
Gly Asn Lys Ala Ile		720
725		

<210> 27
 <211> 7419
 <212> DNA
 <213> Homo Sapiens

<400> 27

cggggaccga	tccagcctcc	ggactctagc	ctaggctttt	gcaaaaagct	atttaggtga	60
cactatagaa	ggtacgcctg	caggtaccgg	tccggaattc	cggggtcgac	ccacgcgtcc	120
gcagccccgt	cgccggcgga	ggcgggcgcg	ggcgcgtnc	ctgtggccag	tcacccggag	180
gagttggtcg	cacaattatg	aaagactcgg	cttctgctgc	tagcgccgga	gctgagttag	240
ttctgagaag	gtttccctgg	gcgttccttg	tccggcggcc	tctgctgccg	cctccggaga	300
cgcttcccga	tagatggcta	caggccgcgg	aggaggagga	ggtggagttg	ctgcccttcc	360
ggagtccgcc	ccgtgaggag	aatgtcccag	aaatcctgga	tagaaagcac	tttgaccaag	420
agggaatgtg	tatatattat	accaagttcc	aaggaccctc	acagatgcct	tccaggatgt	480
caaatttgct	agcaactcgt	caggtgtttt	tgtggtcgct	tgggtcaagca	acatgcttgt	540
tttactgcaa	gtcttgccat	gaaatactca	gatgtgaaat	tgggtgacca	ttttaatcag	600
gcaatagaag	aatggtctgt	ggaaaagcat	acagaacaga	gccaacgga	tgcttatgga	660
gtcataaatt	ttcaaggggg	ttctcattcc	tacagagcta	agtatgtgag	gctatcatat	720
gacaccaaac	ctgaagtcac	tctgcaactt	ctgcttaaa	aatggcaaat	ggagttaccc	780
aaacttggtt	tctctgtaca	tgggggcatg	cagaaatttg	agcttcaccc	acgaatcaag	840
cagttgcttg	gaaaaggtct	tattaaagct	gcagttacaa	ctggagcctg	gatttttaact	900
ggaggagtaa	acacaggtgt	ggcaaaacat	ggtggagatg	ccctcaaaga	acatgcttcc	960
agatcatctc	gaaagatttg	cactatcgga	atagctccat	ggggagtgat	tgaaaacaga	1020
aatgatcttg	ttgggagaga	tgtggttgct	ccttatcaaa	ccttattgaa	ccccctgagc	1080
aaattgaatg	ttttgaataa	tctgcattcc	catttcatat	tgggtgatga	tggcactggt	1140
ggaagatatg	gggcggaagt	cagactgaga	agagaacttg	aaaaaactat	taatcagcaa	1200
agaattcatg	ctaggattgg	ccagggtgtc	cctgtggtgg	cacttatatt	tgaggggtggg	1260
ccaaatgtta	tcctcacagt	tcttgaatac	cttcaggaaa	gccccctgt	tccagtagtt	1320
gtgtgtgaag	gaacaggcag	agctgcagat	ctgctagcgt	atattcataa	acaaacagaa	1380
gaaggaggga	atcttctctga	tgcagcagag	cccgatatta	tttccactat	caaaaaaaca	1440
tttaactttg	gccagaatga	agcacttcat	ttatttcaaa	cactgatgga	gtgcatgaaa	1500
agaaaggagc	ttatcactgt	tttccatatt	gggtcagatg	aacatcaaga	tatagatgta	1560
gcaatactta	ctgcactgct	aaaagggtact	aatgcatctg	catttgacca	gcttatcctt	1620
acattggcat	gggattagat	tgacattgcc	aaaaatcatg	tatttgttta	tggacagcag	1680
tggctgggtg	gaccttggga	acaagctatg	cttgatgctc	ttgtaatgga	tagagttgca	1740
tttgtaaaaac	ttcttattga	aaatggagta	agcatgcata	aattccttac	cattccgaga	1800
ctggaagaac	tttaacaacac	taaacaaggt	ccaactaatc	caatgctgtt	tcactcttgt	1860
cgagacgtca	aacaggggaa	tcttcctcca	ggatataaga	tcactctgat	tgatatagga	1920
cttggttattg	aatatctcat	gggagggaacc	tacagatgca	cctatactag	gaaacgtttt	1980
cgattaatat	ataatagtct	tgggtggaaat	aatcggaggt	ctggccgaaa	tacctccagc	2040
agcactcttc	agttgcgaaa	gagtcattgaa	tcttttggca	atagggcaga	taaaaaggaa	2100
aaaatgaggc	ataaccattt	cattaagaca	gcacagccct	tccgaccaa	gattgatata	2160
gttatggaag	aaggaaaagaa	gaaaagaacc	aaagatgaaa	ttgtagacat	tgatgatcca	2220

gaaaccaagc	gctttcctta	tccacttaat	gaacttttaa	tttgggcttg	ccttatgaag	2280
aggcaggtca	tggcccgttt	tttatggcaa	catgggtgaag	aatcaatggc	taaagcatta	2340
gttgccgtga	agatctatcg	ttcaatggca	tatgaagcaa	agcagagtga	cctggtagat	2400
gatacttcag	aagaactaaa	acagtattcc	aatgattttg	gtcagttggc	cgttgaatta	2460
ttagaacagt	ccttcagaca	agatgaaacc	atggctatga	aattgctcac	ttatgaactg	2520
aagaactgga	gtaattcaac	ctgccttaag	ttagcagttt	cttcaagact	tagacctttt	2580
gtagctcaca	cctgtacaca	aatgttggtta	tctgatatgt	ggatgggaag	gctgaatatg	2640
aggaaaaatt	cctgggtacaa	ggtcatacta	agcatttttag	ttccacctgc	catattgctg	2700
ttagagtata	aaactaaggc	tgaaatgtcc	catatcccac	aatctcaaga	tgctcatcag	2760
atgacaatgg	atgacagcga	aaacaacttt	cagaacataa	cagaagagat	ccccatggaa	2820
gtgttttaaag	aagtacggat	tttggtatgt	aatgaaggaa	agaatgagat	ggagatacaa	2880
atgaaatcaa	aaaagcttcc	aattacgcga	aagttttatg	ccttttatca	tgaccaaat	2940
gtaaaattct	ggtttaacac	gttggcatat	ttaggatttc	tgatgcttta	tacatttggtg	3000
gttcttgtag	aaatggaaca	gttaccttca	gttcaagaat	ggattggtat	tgcttatatt	3060
tttacttatg	ccattgagaa	agtccgtgag	atctttatgt	ctgaagctgg	gaaagtaa	3120
cagaagatta	aagtatggtt	tagtgattac	ttcaacatca	gtgatacaat	tgccataatt	3180
tctttcttca	ttggatttgg	actaagattt	ggagcaaaa	ggaactttgc	aatgcatat	3240
gataatcatg	ttttgtggc	tggaagatta	atttactgtc	ttaacataat	attttgggtat	3300
gtgcgtttgc	tagattttct	agctgtaaat	caacaggcag	gaccttatgt	aatgatgatt	3360
ggaaaaatgg	tggccaatat	gttctacatt	gtagtatta	tggtctttgt	attacttagt	3420
tttggtgttc	ccagaaaggc	aatactttat	cctcatgaag	caccatcttg	gactcttgct	3480
aaagatatag	tttttcaccc	atactggatg	atttttggtg	aagtttatgc	atacgaaatt	3540
gatgtgtgtg	caaatgatcc	tggtatccct	caaactctgtg	gtcctgggac	gtgggtgact	3600
ccatttcttc	aagcagttct	cctctttgta	cagtatatca	ttatggttaa	tcttcttatt	3660
gcatttttca	acaatgtgta	tttacaagtg	aaggcaattt	ccaatattgt	atggaagtac	3720
cagcgttatc	attttattat	ggcttatcat	gagaaaccag	ttctgcctcc	tccacttatc	3780
attccttagcc	atatagtttc	tctgttttgc	tgcatatgta	agagaagaaa	gaaagataag	3840
acttccgatg	gaccaaaact	tttcttaaca	gaagaagatc	aaaagaaaact	tcatgatttt	3900
gaagagcagt	gtgttgaaat	gtatttcaat	gaaaaagatg	acaaatttca	ttctgggagt	3960
gaagagagaa	ttcgtgtcac	ttttgaaaga	gtggaacaga	tgtgcattca	gattaaagaa	4020
gttgagagatc	gtgtcaacta	cataaaaaga	tcattacaat	cattagattc	tcaaattggc	4080
catttgcaag	atctttcagc	cctgacggta	gatatactaa	aaacactcac	tgcccagaaa	4140
gcgtcggaag	ctagcaaaag	tcataatgaa	atcacacgag	aactgagcat	ttccaaacac	4200
ttggctcaaa	accttattga	tgatggctct	gtaagacctt	ctgtatggaa	aaagcatggt	4260
gttgtaaaata	cacttagctc	ctctcttcc	caaggtgatc	ttgaaagtaa	taactctttt	4320
cattgtaata	ttttaatgaa	agatgacaaa	gatccccagt	gtaatatatt	tggtcaagac	4380
ttacctgcag	taccccgag	aaaagaattt	aattttccag	aggctgggtc	ctcttctggt	4440
gccttattcc	caagtgtgtg	ttcccctcca	gaactgcgac	agagactaca	tggggtagaa	4500
ctcttaaaaa	tatttaataa	aaatcaaaaa	ttaggcagtt	catctactag	cataccacat	4560
ctgtcatccc	caccaaccaa	attttttgtt	agtacaccat	ctcagccaag	ttgcaaaaagc	4620
cacttggaag	ctggaaccaa	agatcaagaa	actggttgct	ctaaagctac	agaaggagat	4680
aatacagaat	ttggagcatt	tgtaggacac	agagattagca	tggatttaca	gaggtttaaa	4740
gaaacatcaa	acaagataaa	aatactatcc	aataacaata	cttctgaaaa	cactttgaaa	4800
cgagtgaagt	ctcttgctgg	atttactgac	tgtcacagaa	cttccattcc	tggtcattca	4860
aaacaagcag	aaaaaatcag	tagaaggcca	tctaccgaag	acactcatga	agtagattcc	4920
aaagcagctt	taataccgga	ttgggttaca	gatagaccat	caaacagaga	aatgccatct	4980
gaagaaggaa	cattaaatgg	tctcacttct	ccatttaagc	cagctatgga	tacaaattac	5040
tattattcag	ctgtggaaag	aaataacttg	atgaggttat	cacagagcat	tccatttaca	5100
cctgtgcctc	caagagggga	gcctgtcaca	gtgtatcgtt	tggaagagag	ttcacccaac	5160
atactaaata	acagcatgtc	ttcttgggtc	caactaggcc	tctgtgccaa	aatagagttt	5220
ttaagcaaaag	aggagatggg	aggagggtta	cgaagagctg	tcaaagtaca	gtgtacgtgg	5280
tcagaacatg	atatacctca	atcagggcac	ctttatatta	tcaaattctt	tcttccagag	5340
gtgggttaata	catggtcaag	tatttataaa	gaagatacag	ttctgcatct	ctgtctgaga	5400
gaaattcaac	aacagagagc	agcacaaaag	cttacgtttg	cctttaatca	aatgaaaccc	5460
aaatccatac	catattctcc	aagggtccct	gaagttttcc	tgctgtattg	ccattcagca	5520
ggacagtggg	ttgctgtgga	agaatgtatg	actggagaat	ttagaaaaata	caacaataat	5580
aatggagatg	agattattcc	aactaatact	ctggaagaga	tcatgctagc	ctttagccac	5640
tggacttacg	aatatacaag	aggggaggtta	ctggttacttg	atttgcaagg	tgttgggtgaa	5700
aatttgactg	acccatctgt	gataaaaagca	gaagaaaaga	gatcctgtga	tatgggtttt	5760
ggcccagcaa	atctaggaga	agatgcaatt	aaaaacttca	gagcaaaaaca	tactgtaat	5820
tcttgctgta	gaaagcttaa	acttccagat	ctgaagagga	atgattatac	gcctgataaa	5880

-40-

attatatatttc	ctcaggatga	gccttcagat	ttgaatcttc	agcctggaaa	ttccaccaaaa	5940
gaatcagaat	caactaattc	tgttcgtctg	atgtttataat	attaatatatta	ctgaatcatt	6000
ggttttgcct	gcacctcaca	gaaatgttac	tgtgtcactt	ttccctcggg	aggaaattgt	6060
ttggtaatat	agaaagggtg	atgcaagttg	aatttgctga	ctccagcaca	gttaaaaagg	6120
caatattctt	ttgacctgat	taatcagtc	gaaagtcctt	ataggataga	gctggcagct	6180
gagaaatttt	aaaggtaatt	gataattagt	atttgtaact	ttttaaagg	ctctttgtat	6240
agcagaggat	ctcatttgac	tttgttttga	tgagggtgat	gccctctctt	atgtggtaca	6300
ataccatttaa	ccaaaggtag	glgtccatgc	agatttttatt	ggcagctggt	ttattgccat	6360
tcaactaggg	aaatgaagaa	atcacgcagc	cttttggtta	aatggcagtc	aaaattttcc	6420
tcagtgtatt	tagtgtgttc	agtgatgata	tcactggttc	ccaactagat	gcttggtggc	6480
cacgggaagg	gaaatgactt	gttctaattc	taggttcaca	gaggtatgag	aagcctgaac	6540
tgaagaccat	tttcaagagg	gacggtat	atgaatcagg	gttaggctcc	atattttaaag	6600
atagagccag	tttttttttt	aaatagaacc	caaattgtgt	aaaaatgtta	attgggtttt	6660
ttaaacattg	ttttatcaag	tcactgttaa	gtagaagaaa	gccatggtaa	actgatacat	6720
aacctaatt	ataaaagcag	aaacctaact	cactcgtcaa	gggaagttac	cttttgagga	6780
aagttaaagt	acttttttcc	ctatctgtat	ctatagcaac	aaccagaac	ttacaaactt	6840
ctccaaagat	tttattgatt	gttatatcaa	atcagaatgt	aaacatgaac	tcttgcata	6900
attttaaatt	gtgttggaac	atttgaacat	gaatgctgtt	tgggtactta	agaaattrat	6960
tcagtnggat	tatcattatg	tganactggc	agattgcagt	gcanccttat	gccaataaaa	7020
tgtaatttar	cagccccaga	tattgttgaa	tattcaacaa	taacaagaaa	agcttttcat	7080
ctaagtttta	tgctttaatt	ttttttcttt	ttttttcttt	ttcttttggt	tccttggtac	7140
taattttaat	ttttatttgg	aaggagcag	tataaagctt	atttgtat	agtagtgat	7200
ctcatagata	cagacaaggc	aagagatgat	aagctgttta	aatagtgtt	aatattgatt	7260
gggggtggg	agaaagaaaa	agtgtattac	ttaaagatac	tatatacs	ttktataca	7320
ttaaattctt	aaaagaaatn	naataaattt	attgttttca	aaaaaaaaac	ccnntaaaaa	7380
aaaaaggcg	gccctctag	aggatccctc	gaggggccc			7419

<210> 28
 <211> 1865
 <212> PRT
 <213> Homo Sapiens

<400> 28

Met	Ser	Gln	Lys	Ser	Trp	Ile	Glu	Ser	Thr	Leu	Thr	Lys	Arg	Glu	Cys
1				5					10					15	
Val	Tyr	Ile	Ile	Pro	Ser	Ser	Lys	Asp	Pro	His	Arg	Cys	Leu	Pro	Gly
			20					25					30		
Cys	Gln	Ile	Cys	Gln	Gln	Leu	Val	Arg	Cys	Phe	Cys	Gly	Arg	Leu	Val
		35					40					45			
Lys	Gln	His	Ala	Cys	Phe	Thr	Ala	Ser	Leu	Ala	Met	Lys	Tyr	Ser	Asp
		50				55					60				
Val	Lys	Leu	Gly	Asp	His	Phe	Asn	Gln	Ala	Ile	Glu	Glu	Trp	Ser	Val
65					70					75				80	
Glu	Lys	His	Thr	Glu	Gln	Ser	Pro	Thr	Asp	Ala	Tyr	Gly	Val	Ile	Asn
			85						90					95	
Phe	Gln	Gly	Gly	Ser	His	Ser	Tyr	Arg	Ala	Lys	Tyr	Val	Arg	Leu	Ser
		100						105					110		
Tyr	Asp	Thr	Lys	Pro	Glu	Val	Ile	Leu	Gln	Leu	Leu	Leu	Lys	Glu	Trp
		115					120					125			
Gln	Met	Glu	Leu	Pro	Lys	Leu	Val	Ile	Ser	Val	His	Gly	Gly	Met	Gln
		130				135					140				
Lys	Phe	Glu	Leu	His	Pro	Arg	Ile	Lys	Gln	Leu	Leu	Gly	Lys	Gly	Leu
145					150					155				160	
Ile	Lys	Ala	Ala	Val	Thr	Thr	Gly	Ala	Trp	Ile	Leu	Thr	Gly	Gly	Val
			165					170						175	
Asn	Thr	Gly	Val	Ala	Lys	His	Val	Gly	Asp	Ala	Leu	Lys	Glu	His	Ala
		180						185					190		
Ser	Arg	Ser	Ser	Arg	Lys	Ile	Cys	Thr	Ile	Gly	Ile	Ala	Pro	Trp	Gly
		195					200					205			
Val	Ile	Glu	Asn	Arg	Asn	Asp	Leu	Val	Gly	Arg	Asp	Val	Val	Ala	Pro
		210				215					220				

-41-

Tyr	Gln	Thr	Leu	Leu	Asn	Pro	Leu	Ser	Lys	Leu	Asn	Val	Leu	Asn	Asn
225					230					235					240
Leu	His	Ser	His	Phe	Ile	Leu	Val	Asp	Asp	Gly	Thr	Val	Gly	Lys	Tyr
				245					250					255	
Gly	Ala	Glu	Val	Arg	Leu	Arg	Arg	Glu	Leu	Glu	Lys	Thr	Ile	Asn	Gln
			260					265					270		
Gln	Arg	Ile	His	Ala	Arg	Ile	Gly	Gln	Gly	Val	Pro	Val	Val	Ala	Leu
		275					280					285			
Ile	Phe	Glu	Gly	Gly	Pro	Asn	Val	Ile	Leu	Thr	Val	Leu	Glu	Tyr	Leu
	290					295					300				
Gln	Glu	Ser	Pro	Pro	Val	Pro	Val	Val	Val	Cys	Glu	Gly	Thr	Gly	Arg
305					310					315					320
Ala	Ala	Asp	Leu	Leu	Ala	Tyr	Ile	His	Lys	Gln	Thr	Glu	Glu	Gly	Gly
				325					330					335	
Asn	Leu	Pro	Asp	Ala	Ala	Glu	Pro	Asp	Ile	Ile	Ser	Thr	Ile	Lys	Lys
			340					345					350		
Thr	Phe	Asn	Phe	Gly	Gln	Asn	Glu	Ala	Leu	His	Leu	Phe	Gln	Thr	Leu
	355						360					365			
Met	Glu	Cys	Met	Lys	Arg	Lys	Glu	Leu	Ile	Thr	Val	Phe	His	Ile	Gly
	370					375					380				
Ser	Asp	Glu	His	Gln	Asp	Ile	Asp	Val	Ala	Ile	Leu	Thr	Ala	Leu	Leu
385				390						395					400
Lys	Gly	Thr	Asn	Ala	Ser	Ala	Phe	Asp	Gln	Leu	Ile	Leu	Thr	Leu	Ala
			405					410						415	
Trp	Asp	Arg	Val	Asp	Ile	Ala	Lys	Asn	His	Val	Phe	Val	Tyr	Gly	Gln
	420							425					430		
Gln	Trp	Leu	Val	Gly	Ser	Leu	Glu	Gln	Ala	Met	Leu	Asp	Ala	Leu	Val
	435						440					445			
Met	Asp	Arg	Val	Ala	Phe	Val	Lys	Leu	Leu	Ile	Glu	Asn	Gly	Val	Ser
	450					455					460				
Met	His	Lys	Phe	Leu	Thr	Ile	Pro	Arg	Leu	Glu	Glu	Leu	Tyr	Asn	Thr
465				470						475					480
Lys	Gln	Gly	Pro	Thr	Asn	Pro	Met	Leu	Phe	His	Leu	Val	Arg	Asp	Val
			485					490						495	
Lys	Gln	Gly	Asn	Leu	Pro	Pro	Gly	Tyr	Lys	Ile	Thr	Leu	Ile	Asp	Ile
			500					505					510		
Gly	Leu	Val	Ile	Glu	Tyr	Leu	Met	Gly	Gly	Thr	Tyr	Arg	Cys	Thr	Tyr
	515						520					525			
Thr	Arg	Lys	Arg	Phe	Arg	Leu	Ile	Tyr	Asn	Ser	Leu	Gly	Gly	Asn	Asn
	530					535					540				
Arg	Arg	Ser	Gly	Arg	Asn	Thr	Ser	Ser	Ser	Thr	Pro	Gln	Leu	Arg	Lys
545					550					555					560
Ser	His	Glu	Ser	Phe	Gly	Asn	Arg	Ala	Asp	Lys	Lys	Glu	Lys	Met	Arg
				565					570					575	
His	Asn	His	Phe	Ile	Lys	Thr	Ala	Gln	Pro	Phe	Arg	Pro	Lys	Ile	Asp
			580					585					590		
Thr	Val	Met	Glu	Glu	Gly	Lys	Lys	Lys	Arg	Thr	Lys	Asp	Glu	Ile	Val
	595					600						605			
Asp	Ile	Asp	Asp	Pro	Glu	Thr	Lys	Arg	Phe	Pro	Tyr	Pro	Leu	Asn	Glu
	610					615					620				
Leu	Leu	Ile	Trp	Ala	Cys	Leu	Met	Lys	Arg	Gln	Val	Met	Ala	Arg	Phe
625					630					635					640
Leu	Trp	Gln	His	Gly	Glu	Glu	Ser	Met	Ala	Lys	Ala	Leu	Val	Ala	Cys
				645					650					655	
Lys	Ile	Tyr	Arg	Ser	Met	Ala	Tyr	Glu	Ala	Lys	Gln	Ser	Asp	Leu	Val
			660					665					670		
Asp	Asp	Thr	Ser	Glu	Glu	Leu	Lys	Gln	Tyr	Ser	Asn	Asp	Phe	Gly	Gln
		675					680					685			
Leu	Ala	Val	Glu	Leu	Leu	Glu	Gln	Ser	Phe	Arg	Gln	Asp	Glu	Thr	Met
	690					695					700				
Ala	Met	Lys	Leu	Leu	Thr	Tyr	Glu	Leu	Lys	Asn	Trp	Ser	Asn	Ser	Thr

-42-

705					710					715				720	
Cys	Leu	Lys	Leu	Ala	Val	Ser	Ser	Arg	Leu	Arg	Pro	Phe	Val	Ala	His
				725					730					735	
Thr	Cys	Thr	Gln	Met	Leu	Leu	Ser	Asp	Met	Trp	Met	Gly	Arg	Leu	Asn
			740					745					750		
Met	Arg	Lys	Asn	Ser	Trp	Tyr	Lys	Val	Ile	Leu	Ser	Ile	Leu	Val	Pro
		755					760					765			
Pro	Ala	Ile	Leu	Leu	Leu	Glu	Tyr	Lys	Thr	Lys	Ala	Glu	Met	Ser	His
		770				775					780				
Ile	Pro	Gln	Ser	Gln	Asp	Ala	His	Gln	Met	Thr	Met	Asp	Asp	Ser	Glu
785					790					795					800
Asn	Asn	Phe	Gln	Asn	Ile	Thr	Glu	Glu	Ile	Pro	Met	Glu	Val	Phe	Lys
				805					810					815	
Glu	Val	Arg	Ile	Leu	Asp	Ser	Asn	Glu	Gly	Lys	Asn	Glu	Met	Glu	Ile
			820					825					830		
Gln	Met	Lys	Ser	Lys	Lys	Leu	Pro	Ile	Thr	Arg	Lys	Phe	Tyr	Ala	Phe
		835					840					845			
Tyr	His	Ala	Pro	Ile	Val	Lys	Phe	Trp	Phe	Asn	Thr	Leu	Ala	Tyr	Leu
	850					855					860				
Gly	Phe	Leu	Met	Leu	Tyr	Thr	Phe	Val	Val	Leu	Val	Gln	Met	Glu	Gln
865					870					875					880
Leu	Pro	Ser	Val	Gln	Glu	Trp	Ile	Val	Ile	Ala	Tyr	Ile	Phe	Thr	Tyr
				885					890						895
Ala	Ile	Glu	Lys	Val	Arg	Glu	Ile	Phe	Met	Ser	Glu	Ala	Gly	Lys	Val
		900						905					910		
Asn	Gln	Lys	Ile	Lys	Val	Trp	Phe	Ser	Asp	Tyr	Phe	Asn	Ile	Ser	Asp
		915					920					925			
Thr	Ile	Ala	Ile	Ile	Ser	Phe	Phe	Ile	Gly	Phe	Gly	Leu	Arg	Phe	Gly
	930					935					940				
Ala	Lys	Trp	Asn	Phe	Ala	Asn	Ala	Tyr	Asp	Asn	His	Val	Phe	Val	Ala
945					950					955					960
Gly	Arg	Leu	Ile	Tyr	Cys	Leu	Asn	Ile	Ile	Phe	Trp	Tyr	Val	Arg	Leu
				965					970						975
Leu	Asp	Phe	Leu	Ala	Val	Asn	Gln	Gln	Ala	Gly	Pro	Tyr	Val	Met	Met
		980						985					990		
Ile	Gly	Lys	Met	Val	Ala	Asn	Met	Phe	Tyr	Ile	Val	Val	Ile	Met	Ala
	995						1000						1005		
Leu	Val	Leu	Leu	Ser	Phe	Gly	Val	Pro	Arg	Lys	Ala	Ile	Leu	Tyr	Pro
	1010					1015					1020				
His	Glu	Ala	Pro	Ser	Trp	Thr	Leu	Ala	Lys	Asp	Ile	Val	Phe	His	Pro
1025					1030					1035					1040
Tyr	Trp	Met	Ile	Phe	Gly	Glu	Val	Tyr	Ala	Tyr	Glu	Ile	Asp	Val	Cys
				1045					1050						1055
Ala	Asn	Asp	Ser	Val	Ile	Pro	Gln	Ile	Cys	Gly	Pro	Gly	Thr	Trp	Leu
			1060					1065					1070		
Thr	Pro	Phe	Leu	Gln	Ala	Val	Tyr	Leu	Phe	Val	Gln	Tyr	Ile	Ile	Met
		1075					1080					1085			
Val	Asn	Leu	Leu	Ile	Ala	Phe	Phe	Asn	Asn	Val	Tyr	Leu	Gln	Val	Lys
	1090					1095					1100				
Ala	Ile	Ser	Asn	Ile	Val	Trp	Lys	Tyr	Gln	Arg	Tyr	His	Phe	Ile	Met
1105					1110					1115					1120
Ala	Tyr	His	Glu	Lys	Pro	Val	Leu	Pro	Pro	Pro	Leu	Ile	Ile	Leu	Ser
				1125					1130						1135
His	Ile	Val	Ser	Leu	Phe	Cys	Cys	Ile	Cys	Lys	Arg	Arg	Lys	Lys	Asp
		1140						1145					1150		
Lys	Thr	Ser	Asp	Gly	Pro	Lys	Leu	Phe	Leu	Thr	Glu	Glu	Asp	Gln	Lys
		1155					1160					1165			
Lys	Leu	His	Asp	Phe	Glu	Glu	Gln	Cys	Val	Glu	Met	Tyr	Phe	Asn	Glu
	1170					1175					1180				
Lys	Asp	Asp	Lys	Phe	His	Ser	Gly	Ser	Glu	Glu	Arg	Ile	Arg	Val	Thr
1185					1190					1195					1200

Phe	Glu	Arg	Val	Glu	Gln	Met	Cys	Ile	Gln	Ile	Lys	Glu	Val	Gly	Asp		
				1205					1210						1215		
Arg	Val	Asn	Tyr	Ile	Lys	Arg	Ser	Leu	Gln	Ser	Leu	Asp	Ser	Gln	Ile		
				1220					1225						1230		
Gly	His	Leu	Gln	Asp	Leu	Ser	Ala	Leu	Thr	Val	Asp	Thr	Leu	Lys	Thr		
				1235					1240						1245		
Leu	Thr	Ala	Gln	Lys	Ala	Ser	Glu	Ala	Ser	Lys	Val	His	Asn	Glu	Ile		
				1250					1255						1260		
Thr	Arg	Glu	Leu	Ser	Ile	Ser	Lys	His	Leu	Ala	Gln	Asn	Leu	Ile	Asp		
				1265					1270						1280		
Asp	Gly	Pro	Val	Arg	Pro	Ser	Val	Trp	Lys	Lys	His	Gly	Val	Val	Asn		
				1285					1290						1295		
Thr	Leu	Ser	Ser	Ser	Leu	Pro	Gln	Gly	Asp	Leu	Glu	Ser	Asn	Asn	Pro		
				1300					1305						1310		
Phe	His	Cys	Asn	Ile	Leu	Met	Lys	Asp	Asp	Lys	Asp	Pro	Gln	Cys	Asn		
				1315					1320						1325		
Ile	Phe	Gly	Gln	Asp	Leu	Pro	Ala	Val	Pro	Gln	Arg	Lys	Glu	Phe	Asn		
				1330					1335						1340		
Phe	Pro	Glu	Ala	Gly	Ser	Ser	Ser	Gly	Ala	Leu	Phe	Pro	Ser	Ala	Val		
				1345					1350						1360		
Ser	Pro	Pro	Glu	Leu	Arg	Gln	Arg	Leu	His	Gly	Val	Glu	Leu	Leu	Lys		
				1365					1370						1375		
Ile	Phe	Asn	Lys	Asn	Gln	Lys	Leu	Gly	Ser	Ser	Ser	Thr	Ser	Ile	Pro		
				1380					1385						1390		
His	Leu	Ser	Ser	Pro	Pro	Thr	Lys	Phe	Phe	Val	Ser	Thr	Pro	Ser	Gln		
				1395					1400						1405		
Pro	Ser	Cys	Lys	Ser	His	Leu	Glu	Thr	Gly	Thr	Lys	Asp	Gln	Glu	Thr		
				1410					1415						1420		
Val	Cys	Ser	Lys	Ala	Thr	Glu	Gly	Asp	Asn	Thr	Glu	Phe	Gly	Ala	Phe		
				1425					1430						1440		
Val	Gly	His	Arg	Asp	Ser	Met	Asp	Leu	Gln	Arg	Phe	Lys	Glu	Thr	Ser		
				1445					1450						1455		
Asn	Lys	Ile	Lys	Ile	Leu	Ser	Asn	Asn	Asn	Thr	Ser	Glu	Asn	Thr	Leu		
				1460					1465						1470		
Lys	Arg	Val	Ser	Ser	Leu	Ala	Gly	Phe	Thr	Asp	Cys	His	Arg	Thr	Ser		
				1475					1480						1485		
Ile	Pro	Val	His	Ser	Lys	Gln	Ala	Glu	Lys	Ile	Ser	Arg	Arg	Pro	Ser		
				1490					1495						1500		
Thr	Glu	Asp	Thr	His	Glu	Val	Asp	Ser	Lys	Ala	Ala	Leu	Ile	Pro	Asp		
				1505					1510						1520		
Trp	Leu	Gln	Asp	Arg	Pro	Ser	Asn	Arg	Glu	Met	Pro	Ser	Glu	Glu	Gly		
				1525					1530						1535		
Thr	Leu	Asn	Gly	Leu	Thr	Ser	Pro	Phe	Lys	Pro	Ala	Met	Asp	Thr	Asn		
				1540					1545						1550		
Tyr	Tyr	Tyr	Ser	Ala	Val	Glu	Arg	Asn	Asn	Leu	Met	Arg	Leu	Ser	Gln		
				1555					1560						1565		
Ser	Ile	Pro	Phe	Thr	Pro	Val	Pro	Pro	Arg	Gly	Glu	Pro	Val	Thr	Val		
				1570					1575						1580		
Tyr	Arg	Leu	Glu	Glu	Ser	Ser	Pro	Asn	Ile	Leu	Asn	Asn	Ser	Met	Ser		
				1585					1590						1600		
Ser	Trp	Ser	Gln	Leu	Gly	Leu	Cys	Ala	Lys	Ile	Glu	Phe	Leu	Ser	Lys		
				1605					1610						1615		
Glu	Glu	Met	Gly	Gly	Gly	Leu	Arg	Arg	Ala	Val	Lys	Val	Gln	Cys	Thr		
				1620					1625						1630		
Trp	Ser	Glu	His	Asp	Ile	Leu	Lys	Ser	Gly	His	Leu	Tyr	Ile	Ile	Lys		
				1635					1640						1645		
Ser	Phe	Leu	Pro	Glu	Val	Val	Asn	Thr	Trp	Ser	Ser	Ile	Tyr	Lys	Glu		
				1650					1655						1660		
Asp	Thr	Val	Leu	His	Leu	Cys	Leu	Arg	Glu	Ile	Gln	Gln	Gln	Arg	Ala		
				1665					1670						1680		
Ala	Gln	Lys	Leu	Thr	Phe	Ala	Phe	Asn	Gln	Met	Lys	Pro	Lys	Ser	Ile		

-44-

	1685		1690		1695
Pro Tyr Ser	Pro Arg Phe Leu Glu Val Phe Leu Leu Tyr Cys His Ser				
	1700		1705		1710
Ala Gly Gln Trp Phe Ala Val Glu Glu Cys Met Thr Gly Glu Phe Arg					
	1715		1720		1725
Lys Tyr Asn Asn Asn Asn Gly Asp Glu Ile Ile Pro Thr Asn Thr Leu					
	1730		1735		1740
Glu Glu Ile Met Leu Ala Phe Ser His Trp Thr Tyr Glu Tyr Thr Arg					
	1745		1750		1755
Gly Glu Leu Leu Val Leu Asp Leu Gln Gly Val Gly Glu Asn Leu Thr					
	1765		1770		1775
Asp Pro Ser Val Ile Lys Ala Glu Glu Lys Arg Ser Cys Asp Met Val					
	1780		1785		1790
Phe Gly Pro Ala Asn Leu Gly Glu Asp Ala Ile Lys Asn Phe Arg Ala					
	1795		1800		1805
Lys His His Cys Asn Ser Cys Cys Arg Lys Leu Lys Leu Pro Asp Leu					
	1810		1815		1820
Lys Arg Asn Asp Tyr Thr Pro Asp Lys Ile Ile Phe Pro Gln Asp Glu					
	1825		1830		1835
Pro Ser Asp Leu Asn Leu Gln Pro Gly Asn Ser Thr Lys Glu Ser Glu					
	1845		1850		1855
Ser Thr Asn Ser Val Arg Leu Met Leu					
	1860		1865		

<210> 29
 <211> 4061
 <212> DNA
 <213> Homo Sapiens

<400> 29

ggtctggaag	cagagccggc	ggagggagcg	ccggggccct	gggctgcagg	aggttgcggc	60
ggccgcggca	gcatgggtgt	gccggagaag	gagcagagct	ggatcccca	gatcttcaag	120
aagaagacct	gcacgacgtt	catagttgac	tccacagatc	cgggagggac	cttgtgccag	180
tgtgggccc	cccggaccgc	ccaccccgc	gtggccatgg	aggatgcctt	cggggcagcc	240
gtggtgaccg	tgtgggacag	cgatgcacac	accacggaga	agcccaccga	tgccctacga	300
gagctggact	tcacgggggc	cggccgcaag	cacagcaatt	tcctccggct	ctctgaccga	360
acggatccag	ctgcagttta	tagtctggtc	acacgcacat	ggggcttccg	tgccccgaac	420
ctggtggtgt	cagtgtctggg	gggatcgggg	ggccccgtcc	tccagacctg	gctgcaggac	480
ctgctgcgtc	gtgggctggt	gcgggctgcc	cagagcacag	gagcctggat	tgctactggg	540
ggtctgcaca	cgggcatcgg	ccggcatggt	ggtgtggtct	tacgggacca	tcagatggcc	600
agcactgggg	gcaccaaggt	ggtggccatt	ggtgtggccc	cctgggggtg	ggtccggaat	660
agagacaccc	tcatacaacc	caagggctcg	ttccctgcga	ggtaccgggtg	gcgcgggtgac	720
ccggaggacg	gggtccagtt	tcccctggac	tacaactact	cggccttctt	cctgggtggac	780
gacggcacac	acggctgcct	ggggggcgag	aaccgcttcc	gcttgccgct	ggagtcctac	840
atctcacagc	agaagacggg	cgtgggaggg	actggaattg	acatccctgt	cctgctcctc	900
ctgattgatg	gtgatgagaa	gatgttgacg	cgaatagaga	acgccaccca	ggctcagctc	960
ccatgtctcc	tcgtggctgg	ctcaggggga	gctgcggact	gcctggcgga	gaccctggaa	1020
gacactctgg	ccccaggag	tgggggagcc	aggcaaggcg	aagcccagga	tcgaatcagg	1080
cgtttctttc	ccaaagggga	ccttgaggtc	ctgcaggccc	aggtggagag	gattatgacc	1140
cgggaaggagc	tcctgacagt	ctattcttct	gaggatgggt	ctgaggaatt	cgagaccata	1200
gttttgaaag	cccttgtaga	ggcctgtggg	agctcggagg	cctcagccta	cctggatgag	1260
ctgcgttttg	ctgtggcttg	gaaccgcgtg	gacattgccc	agagtgaact	ctttcggggg	1320
gacatccaat	ggcggtcctt	ccatctcgaa	gcttccctca	tggacgccct	gctgaatgac	1380
cggcctgagt	tcgtgcgctt	gctcatttcc	cacggcctca	gcctgggcca	cttcctgacc	1440
ccgatgcgcc	tggcccaact	ctacagcgcg	gcgccctcca	actcgctcat	ccgcaacctt	1500
ttggaccagg	cgtcccacag	cgcaggcacc	aaagccccag	ccctaaaagg	gggagctgcg	1560
gagctccggc	ccctcgacgt	ggggcatgtg	ctgaggatgc	tgctggggaa	gatgtgcgcg	1620
ccgaagtacc	cctccggggg	cgccctgggac	cctcacccag	gccagggctt	cggggagagc	1680
atgtatctgc	tctcggacaa	ggccacctcg	ccgctctcgc	tggatgctgg	cctcgggcag	1740
gccccctgga	gcgacctgct	tctttgggca	ctgttgctga	acagggcaca	gatggccatg	1800
tacttctggg	agatgggttc	caatgcagtt	tcctcagctc	ttggggcctg	tttgctgctc	1860

-45-

cgggtgatgg	cacgcctgga	gcctgacgct	gaggaggcag	cacggaggaa	agacctggcg	1920
ttcaagtttg	aggggatggg	cggtgacctc	tttggcgagt	gctatcgag	cagtggagtg	1980
agggctgccc	gcctcctcct	ccgtcgctgc	ccgctctggg	gggatgccac	ttgcctccag	2040
ctggccatgc	aagctgacgc	ccgtgccttc	tttgcccagg	atgggggtaca	gtctctgctg	2100
acacagaagt	ggtggggaga	tatggccagc	actacaccca	tctggggcct	ggttctcgcc	2160
ttcttttgcc	ctccactcat	ctacacccgc	ctcatcacct	tcaggaaatc	agaagaggag	2220
cccacacggg	aggagctaga	gtttgacatg	gatagtgtca	ttaatgggga	agggcctgtc	2280
gggacggcgg	acccagccga	gaagacggcg	ctgggggtcc	cgcgccagtc	gggccgtccg	2340
ggttgctgcg	ggggccgctg	cgggggggcg	cggtgcctac	gccgctgggt	ccacttctgg	2400
ggcgcgccgg	tgaccatctt	catgggcaac	gtggctagct	acctgctgtt	cctgctgctt	2460
ttctcgcggg	tgctgctcgt	ggatttccag	ccggcgccgc	ccggctccct	ggagctgctg	2520
ctctattttct	gggctttcac	gctgctgtgc	gaggaaactgc	gccagggcct	gagcggaggc	2580
gggggcagcc	tcgccagcgg	gggccccggg	cctggccatg	cctcactgag	ccagcgccctg	2640
cgctcttacc	tcgccgacag	ctggaaccag	tgcgacctag	tggctctcac	ctgcttcctc	2700
ctgggcgtgg	gctgccggct	gaccccggtt	ttgtaccacc	tgggcccac	tgctcctgc	2760
atcgacttca	tggttttcac	ggtgcggctg	cttcacatct	tcacggtcaa	caaacagctg	2820
gggccaaga	tcgtcatcgt	gagcaagatg	atgaaggacg	tgttcttctt	cctcttcttc	2880
ctcggcggtg	ggctggtagc	ctatggcggtg	gccacggagg	ggctcctgag	gccacgggac	2940
agtgaacttc	caagtatcct	gcgcccgcgtc	ttctaccgtc	cctacctgca	gatcttcggg	3000
cagattcccc	aggaggacat	ggacgtggcc	ctcatggagc	acagcaactg	ctcgctcgag	3060
cccggtcttct	gggcacaccc	tcttggggcc	caggcgggca	cctgcgtctc	ccagtatgcc	3120
aactggctgg	tgggtgctgt	cctcgctcatc	ttcctgctcg	tggccaacat	cctgctggtc	3180
aacttgctca	ttgccatggt	cagttacaca	ttcggcaaa	tacagggcaa	cagcgatctc	3240
tactggaagg	cgcagcggtta	ccgcctcatc	cgggaattcc	actctcggcc	cgcgctggcc	3300
ccgcccttta	tcgtcatctc	ccacttgctc	ctcctgctca	ggcaattgtg	caggcgaccc	3360
cggagccccc	agccgtcctc	cccggccctc	gagcatttcc	gggtttacct	ttctaaggaa	3420
gccgagcgga	agctgctaac	gtgggaatcg	gtgcataagg	agaactttct	gctggcacgc	3480
gctagggaca	agcgggagag	cgactccgag	cgtctgaagc	gcacgtccca	gaaggtggac	3540
ttggcactga	aacagctggg	acacatccgc	gagtagcaac	agcgccctgaa	agtgcctggag	3600
cgggaggtcc	agcagtgtag	ccgcgtcctg	gggtgggtgg	ccgaggccct	gagccgctct	3660
gccttgctgc	ccccagggtg	gccgccaccc	cctgacctgc	ctgggtccaa	agactgagcc	3720
ctgctggcgg	acttcaagg	gaagccccca	caggggattt	tgctcctaga	gtaaggctca	3780
tctgggcctc	ggcccccgca	cctgggtggcc	ttgtccttga	ggtgagcccc	atgtccatct	3840
gggccactgt	caggaccacc	tttgggagtg	tcctccttac	aaaccacagc	atgcccggt	3900
cctccagaaa	ccagtcccag	cctgggagga	tcaaggcctg	gatcccgggc	cgttatccat	3960
ctggaggctg	cagggtcctt	ggggtaacag	ggaccacaga	cccctcacca	ctcacagatt	4020
cctcacactg	gggaaataaa	gccatttcag	aggaaaaaaa	a		4061

<210> 30

<211> 1214

<212> PRT

<213> Homo Sapiens

<400> 30

Met	Val	Val	Pro	Glu	Lys	Glu	Gln	Ser	Trp	Ile	Pro	Lys	Ile	Phe	Lys
1				5					10					15	
Lys	Lys	Thr	Cys	Thr	Thr	Phe	Ile	Val	Asp	Ser	Thr	Asp	Pro	Gly	Gly
			20					25					30		
Thr	Leu	Cys	Gln	Cys	Gly	Arg	Pro	Arg	Thr	Ala	His	Pro	Ala	Val	Ala
		35					40					45			
Met	Glu	Asp	Ala	Phe	Gly	Ala	Ala	Val	Val	Thr	Val	Trp	Asp	Ser	Asp
	50					55					60				
Ala	His	Thr	Thr	Glu	Lys	Pro	Thr	Asp	Ala	Tyr	Gly	Glu	Leu	Asp	Phe
65					70					75				80	
Thr	Gly	Ala	Gly	Arg	Lys	His	Ser	Asn	Phe	Leu	Arg	Leu	Ser	Asp	Arg
				85					90					95	
Thr	Asp	Pro	Ala	Ala	Val	Tyr	Ser	Leu	Val	Thr	Arg	Thr	Trp	Gly	Phe
			100					105					110		
Arg	Ala	Pro	Asn	Leu	Val	Val	Ser	Val	Leu	Gly	Gly	Ser	Gly	Gly	Pro
		115					120					125			
Val	Leu	Gln	Thr	Trp	Leu	Gln	Asp	Leu	Leu	Arg	Arg	Gly	Leu	Val	Arg

-46-

130	135	140
Ala Ala Gln Ser Thr Gly	Ala Trp Ile Val Thr Gly Gly Leu His Thr	
145	150	155
Gly Ile Gly Arg His Val Gly Val Ala Val Arg Asp His Gln Met Ala		160
	165	170
Ser Thr Gly Gly Thr Lys Val Val Ala Met Gly Val Ala Pro Trp Gly		175
	180	185
Val Val Arg Asn Arg Asp Thr Leu Ile Asn Pro Lys Gly Ser Phe Pro		190
	195	200
Ala Arg Tyr Arg Trp Arg Gly Asp Pro Glu Asp Gly Val Gln Phe Pro		205
	210	215
Leu Asp Tyr Asn Tyr Ser Ala Phe Phe Leu Val Asp Asp Gly Thr His		220
225	230	235
Gly Cys Leu Gly Gly Glu Asn Arg Phe Arg Leu Arg Leu Glu Ser Tyr		240
	245	250
Ile Ser Gln Gln Lys Thr Gly Val Gly Gly Thr Gly Ile Asp Ile Pro		255
	260	265
Val Leu Leu Leu Leu Ile Asp Gly Asp Glu Lys Met Leu Thr Arg Ile		270
	275	280
Glu Asn Ala Thr Gln Ala Gln Leu Pro Cys Leu Leu Val Ala Gly Ser		285
	290	295
Gly Gly Ala Ala Asp Cys Leu Ala Glu Thr Leu Glu Asp Thr Leu Ala		300
305	310	315
Pro Gly Ser Gly Gly Ala Arg Gln Gly Glu Ala Arg Asp Arg Ile Arg		320
	325	330
Arg Phe Phe Pro Lys Gly Asp Leu Glu Val Leu Gln Ala Gln Val Glu		335
	340	345
Arg Ile Met Thr Arg Lys Glu Leu Leu Thr Val Tyr Ser Ser Glu Asp		350
	355	360
Gly Ser Glu Glu Phe Glu Thr Ile Val Leu Lys Ala Leu Val Lys Ala		365
	370	375
Cys Gly Ser Ser Glu Ala Ser Ala Tyr Leu Asp Glu Leu Arg Leu Ala		380
385	390	395
Val Ala Trp Asn Arg Val Asp Ile Ala Gln Ser Glu Leu Phe Arg Gly		400
	405	410
Asp Ile Gln Trp Arg Ser Phe His Leu Glu Ala Ser Leu Met Asp Ala		415
	420	425
Leu Leu Asn Asp Arg Pro Glu Phe Val Arg Leu Leu Ile Ser His Gly		430
	435	440
Leu Ser Leu Gly His Phe Leu Thr Pro Met Arg Leu Ala Gln Leu Tyr		445
	450	455
Ser Ala Ala Pro Ser Asn Ser Leu Ile Arg Asn Leu Leu Asp Gln Ala		460
465	470	475
Ser His Ser Ala Gly Thr Lys Ala Pro Ala Leu Lys Gly Gly Ala Ala		480
	485	490
Glu Leu Arg Pro Pro Asp Val Gly His Val Leu Arg Met Leu Leu Gly		495
	500	505
Lys Met Cys Ala Pro Arg Tyr Pro Ser Gly Gly Ala Trp Asp Pro His		510
	515	520
Pro Gly Gln Gly Phe Gly Glu Ser Met Tyr Leu Leu Ser Asp Lys Ala		525
	530	535
Thr Ser Pro Leu Ser Leu Asp Ala Gly Leu Gly Gln Ala Pro Trp Ser		540
545	550	555
Asp Leu Leu Leu Trp Ala Leu Leu Leu Asn Arg Ala Gln Met Ala Met		560
	565	570
Tyr Phe Trp Glu Met Gly Ser Asn Ala Val Ser Ser Ala Leu Gly Ala		575
	580	585
Cys Leu Leu Leu Arg Val Met Ala Arg Leu Glu Pro Asp Ala Glu Glu		590
	595	600
Ala Ala Arg Arg Lys Asp Leu Ala Phe Lys Phe Glu Gly Met Gly Val		605
	610	615
		620

-47-

Asp	Leu	Phe	Gly	Glu	Cys	Tyr	Arg	Ser	Ser	Glu	Val	Arg	Ala	Ala	Arg
625					630					635					640
Leu	Leu	Leu	Arg	Arg	Cys	Pro	Leu	Trp	Gly	Asp	Ala	Thr	Cys	Leu	Gln
				645					650					655	
Leu	Ala	Met	Gln	Ala	Asp	Ala	Arg	Ala	Phe	Phe	Ala	Gln	Asp	Gly	Val
		660						665					670		
Gln	Ser	Leu	Leu	Thr	Gln	Lys	Trp	Trp	Gly	Asp	Met	Ala	Ser	Thr	Thr
		675					680					685			
Pro	Ile	Trp	Ala	Leu	Val	Leu	Ala	Phe	Phe	Cys	Pro	Pro	Leu	Ile	Tyr
	690					695					700				
Thr	Arg	Leu	Ile	Thr	Phe	Arg	Lys	Ser	Glu	Glu	Glu	Pro	Thr	Arg	Glu
705					710					715					720
Glu	Leu	Glu	Phe	Asp	Met	Asp	Ser	Val	Ile	Asn	Gly	Glu	Gly	Pro	Val
				725					730					735	
Gly	Thr	Ala	Asp	Pro	Ala	Glu	Lys	Thr	Pro	Leu	Gly	Val	Pro	Arg	Gln
		740						745					750		
Ser	Gly	Arg	Pro	Gly	Cys	Cys	Gly	Gly	Arg	Cys	Gly	Gly	Arg	Arg	Cys
		755					760					765			
Leu	Arg	Arg	Trp	Phe	His	Phe	Trp	Gly	Ala	Pro	Val	Thr	Ile	Phe	Met
	770					775					780				
Gly	Asn	Val	Val	Ser	Tyr	Leu	Leu	Phe	Leu	Leu	Leu	Phe	Ser	Arg	Val
785					790					795					800
Leu	Leu	Val	Asp	Phe	Gln	Pro	Ala	Pro	Pro	Gly	Ser	Leu	Glu	Leu	Leu
				805					810					815	
Leu	Tyr	Phe	Trp	Ala	Phe	Thr	Leu	Leu	Cys	Glu	Glu	Leu	Arg	Gln	Gly
		820					825						830		
Leu	Ser	Gly	Gly	Gly	Gly	Ser	Leu	Ala	Ser	Gly	Gly	Pro	Gly	Pro	Gly
		835					840					845			
His	Ala	Ser	Leu	Ser	Gln	Arg	Leu	Arg	Leu	Tyr	Leu	Ala	Asp	Ser	Trp
	850					855					860				
Asn	Gln	Cys	Asp	Leu	Val	Ala	Leu	Thr	Cys	Phe	Leu	Leu	Gly	Val	Gly
865					870					875					880
Cys	Arg	Leu	Thr	Pro	Gly	Leu	Tyr	His	Leu	Gly	Arg	Thr	Val	Leu	Cys
				885					890					895	
Ile	Asp	Phe	Met	Val	Phe	Thr	Val	Arg	Leu	Leu	His	Ile	Phe	Thr	Val
		900						905					910		
Asn	Lys	Gln	Leu	Gly	Pro	Lys	Ile	Val	Ile	Val	Ser	Lys	Met	Met	Lys
		915					920					925			
Asp	Val	Phe	Phe	Phe	Leu	Phe	Phe	Leu	Gly	Val	Trp	Leu	Val	Ala	Tyr
	930					935					940				
Gly	Val	Ala	Thr	Glu	Gly	Leu	Leu	Arg	Pro	Arg	Asp	Ser	Asp	Phe	Pro
945					950					955					960
Ser	Ile	Leu	Arg	Arg	Val	Phe	Tyr	Arg	Pro	Tyr	Leu	Gln	Ile	Phe	Gly
				965					970					975	
Gln	Ile	Pro	Gln	Glu	Asp	Met	Asp	Val	Ala	Leu	Met	Glu	His	Ser	Asn
		980						985					990		
Cys	Ser	Ser	Glu	Pro	Gly	Phe	Trp	Ala	His	Pro	Pro	Gly	Ala	Gln	Ala
		995					1000					1005			
Gly	Thr	Cys	Val	Ser	Gln	Tyr	Ala	Asn	Trp	Leu	Val	Val	Leu	Leu	Leu
	1010					1015					1020				
Val	Ile	Phe	Leu	Leu	Val	Ala	Asn	Ile	Leu	Leu	Val	Asn	Leu	Leu	Ile
1025					1030					1035					1040
Ala	Met	Phe	Ser	Tyr	Thr	Phe	Gly	Lys	Val	Gln	Gly	Asn	Ser	Asp	Leu
				1045					1050					1055	
Tyr	Trp	Lys	Ala	Gln	Arg	Tyr	Arg	Leu	Ile	Arg	Glu	Phe	His	Ser	Arg
		1060						1065					1070		
Pro	Ala	Leu	Ala	Pro	Pro	Phe	Ile	Val	Ile	Ser	His	Leu	Arg	Leu	Leu
		1075					1080					1085			
Leu	Arg	Gln	Leu	Cys	Arg	Arg	Pro	Arg	Ser	Pro	Gln	Pro	Ser	Ser	Pro
	1090					1095					1100				
Ala	Leu	Glu	His	Phe	Arg	Val	Tyr	Leu	Ser	Lys	Glu	Ala	Glu	Arg	Lys

-48-

1105	1110	1115	1120
Leu Leu Thr Trp Glu Ser Val His Lys Glu Asn Phe Leu Leu Ala Arg			
	1125	1130	1135
Ala Arg Asp Lys Arg Glu Ser Asp Ser Glu Arg Leu Lys Arg Thr Ser			
	1140	1145	1150
Gln Lys Val Asp Leu Ala Leu Lys Gln Leu Gly His Ile Arg Glu Tyr			
	1155	1160	1165
Glu Gln Arg Leu Lys Val Leu Glu Arg Glu Val Gln Gln Cys Ser Arg			
	1170	1175	1180
Val Leu Gly Trp Val Ala Glu Ala Leu Ser Arg Ser Ala Leu Leu Pro			
1185	1190	1195	1200
Pro Gly Gly Pro Pro Pro Asp Leu Pro Gly Ser Lys Asp			
	1205	1210	

<210> 31
 <211> 4646
 <212> DNA
 <213> Homo Sapiens

<400> 31

tcgacccacg	cgctccgcca	cgcgctccgcc	cacgcgtccg	cccacgcgtc	cgccccacgcg	60
tccgcccacg	cgctccgggt	gaaagmramy	cmvgcktsms	aaaaaccgtc	acttaggaaa	120
agatgtcctt	tcgggcagcc	aggctcagca	tgaggaacag	aaggaatgac	actctggaca	180
gcacccggac	cctgtactcc	agcgcgtctc	ggagcacaga	cttgtcttac	agtgaagcgc	240
acttggtgaa	ttttattcaa	gcaaatttta	agaaacgaga	atgtgtcttc	tttaccaaaag	300
attccaaggc	cacggagaat	gtgtgcaagt	gtggctatgc	ccagagccag	cacatggaag	360
gcacccagat	caaccaaagt	gagaaaatgga	actacaagaa	acacaccaag	gaatttccta	420
ccgacgcctt	tggggatatt	cagtttgaga	cactggggaa	gaaaggggaag	tatatacgtc	480
tgtcctgcga	cacggacgcg	gaaatccttt	acgagctgct	gacccagcac	tggcaccta	540
aaacacccaa	cctggtcatt	tctgtgaccg	ggggcgccaa	gaacttcgcc	ctgaagccgc	600
gcatcgcaaa	gatcttcagc	cggtcatctc	acatcgcgca	gtccaaagggt	gcttggtatc	660
tcacgggagg	caccatttat	ggcctgatga	agatcatcgg	ggaggtgggtg	gagataaaca	720
ccatcagcag	gagttcagag	gagaatattg	tggccattgg	catagcagct	tggggctagg	780
tctccaaccg	ggacaccctc	atcaggaatt	gcgatgctga	gggctatttt	ttagcccagt	840
accttatgga	tgacttcaca	agagatccac	tgtgtatcct	ggacaacaac	cacacacatt	900
tgctgctcgt	ggacaatggc	tgtcatggac	atcccactgt	cgaagcaaag	ctccggaatc	960
agctagagaa	gtatatctct	gagcgcacta	ttcaagattc	caactatgggt	ggcaagatcc	1020
ccattgtgtg	ttttgcccac	ggaggtggaa	aagagacttt	gaaagccatc	aatacctcca	1080
tcaaaaataa	aattccttgt	gtggtgggtg	aaggtctcgg	ccagatcgct	gaggtgatcg	1140
ctagcctggt	ggaggtggag	gatgccctga	catcttctgc	cgctcaaggag	aagtgtgtgc	1200
gctttttacc	ccgcacgggtg	tcccggctgc	ctgaggagga	gactgagagt	tggtatcaaat	1260
ggctcaaaga	aattctcgaa	tgttctcacc	tattaacagt	tattaaaatg	gaagaagctg	1320
gggatgaaat	tgtgagcaat	gccatctcct	acgtctctata	caaagccttc	agcaccagt	1380
agcaagacaa	ggataactgg	aatgggcagc	tgaagcttct	gctggagtgg	aaccagctgg	1440
acttagccaa	tgatgagatt	ttcaccaatg	accgccgatg	ggagtctgct	gaccttcaag	1500
aagtcattgt	tacggctctc	ataaaggaca	gacccaagtt	tgtccgcctc	tttctggaga	1560
atggcttgaa	cctacggaag	tttctcacc	atgatgtcct	caactgaactc	ttctccaacc	1620
acttcagcac	gcttgtgtac	cggaatctgc	agatcgccaa	gaattcctat	aatgatgcc	1680
tcctcacgtt	tgtctggaaa	ctggttgcca	acttccgaag	aggcttccgg	aaggaagaca	1740
gaaatggccg	ggacgagatg	gacatagaac	tccacgacgt	gtctcctatt	actcggcacc	1800
ccctgcaagc	tctcttcac	tgggccattc	ttcagaataa	gaaggaactc	tccaaagtca	1860
tttgggagca	gaccaggggc	tgcactctgg	cagccctggg	agccagcaag	cttctgaaga	1920
ctctggccaa	agtgaagaac	gacatcaatg	ctgctgggga	gtccgaggag	ctggctaattg	1980
agtacgagac	ccgggctggt	gagctgttca	ctgagtgtta	cagcagcgat	gaagacttgg	2040
cagaacagct	gctggtctat	tctgtgaa	cttggggtgg	aagcaactgt	ctggagctgg	2100
cggtggaggc	cacagaccag	catttcacgc	cccagcctgg	ggtccagaat	tttctttcta	2160
agcaatggta	tggagagatt	tcccagagaca	ccaagaactg	gaagattatc	ctgtgtctgt	2220
ttattatacc	cttgggtggc	tgtggctttg	tatcatttag	gaagaaacct	gtcgacaagc	2280
acaagaagct	gctttgggtac	tatgtggcgt	tcttcacctc	ccccttcgtg	gtcttctcct	2340
ggaatgtgg	cttctacatc	gccttctctc	tgtgttttgc	ctacgtgctg	ctcatggatt	2400
tccattcggt	gccacacccc	cccagagctgg	tcctgtactc	gctggtcttt	gtcctcttct	2460

gtgatgaagt	gagacagtgg	tacgtaaatg	gggtgaatta	ttttactgac	ctgtggaatg	2520
tgatggacac	gctggggctt	ttttacttca	tagcaggaat	tgtatttcgg	ctccactctt	2580
ctaataaaag	ctctttgtat	tctggacgag	tcattttctg	cttggactac	attattttca	2640
ctctaagatt	gatccacatt	tttactgtaa	gcagaaactt	aggacccaag	attataatgc	2700
tgcagaggat	gctgatcgat	gtgttcttct	tcctgttctt	ctttgcggtg	tggatggtgg	2760
cctttggcgt	ggccaggcaa	gggatcctta	ggcagaatga	gcagcgctgg	aggtggatat	2820
tccgttcggt	catctacgag	ccctacctgg	ccatgttcgg	ccaggtgcc	agtgacgtgg	2880
atggtaccac	gtatgacttt	gcccactgca	ccttcactgg	gaatgagtc	aagccactgt	2940
gtgtggagct	ggatgagcac	aacctgcccc	ggttccccga	ctggatcacc	atccccctgt	3000
tgtgcattcta	catgtttatc	accaacatcc	tgtcgggtcaa	ctcgtcggtc	gccatgtttg	3060
gctacacggt	gggcaccgtc	caggagaaca	atgaccaggt	ctggaagttc	cagaggfact	3120
tcctgggtgca	ggagtactgc	agccgcctca	atatccccct	ccccctcctc	gtcttcgctt	3180
actttctacat	ggtgggtgaag	aagtgttcca	agtgttgctg	caaggagaaa	aacatggagt	3240
cttctgtctg	ctgtttcaaa	aatgaagaca	atgagactct	ggcatgggag	ggtgtcatga	3300
aggaaaaacta	ccttgtcga	atcaacacaa	aagccaacga	cacctcagag	gaaatgaggc	3360
atcgatttag	acaactggat	acaaagctta	atgatctcaa	gggtcttctg	aaagagattg	3420
ctaataaaat	caataaaac	tgtatgaact	ctaattggaga	aaaatcta	tatagcaaga	3480
tcatattaag	gaatgctgat	gaacaatttt	gctatcgact	actaaatgag	agattttcag	3540
acccctgggt	acatggtgga	tgattttaaa	tcaccctagt	gtgctgagac	cttgagaata	3600
aagtgtgtga	ttggtttcat	acttgaagac	ggatataaag	gaagaatatt	tcctttatgt	3660
gtttctccag	aatgggtgct	gtttctctct	gtgtctcaat	gcctgggact	ggagggtgat	3720
agtttaagt	tgttcttacc	gcctcctttt	tcctttaatc	ttatttttga	tgaacacata	3780
tataggagaa	catctatcct	atgaataaga	acctggctat	gctttactct	tgtattgtta	3840
ttttgttcat	ttccaattgc	ttctctactt	ttcccctttt	tgtattatgt	gactaattag	3900
ttggcatatt	gtwaaaagtc	tctcaaatta	ggccagattc	taaaacatgc	tgcagaaaga	3960
ggaccccgct	ctcttcagga	aaagtgtttt	catttctcag	gatgcttctt	acctgtcaga	4020
ggagggtgaca	aggcagttct	ttgctctctt	ggactcacca	ggctcctatt	gaagggaacca	4080
ccccatttc	taaatatgtg	aaaagtcgcc	caaaatgcaa	ccttgaaagg	cactactgac	4140
tttgtttcta	ttggatactc	ctcttattta	ttatttttcc	attaaaaata	atagctggct	4200
attatagaaa	atttagacca	tacagagatg	tagaaaagaac	ataaattgtc	cccattacct	4260
taaggtaaat	actgctaaca	attttctggat	ggtttttcaa	gtctattttt	tttctatgta	4320
tgtctcaatt	ctctttcaaa	attttcacaga	atgttatcat	actacatata	tactttttat	4380
gtaagctttt	tcacttagta	ttttatcaaa	tatgtttttta	ttatattcat	agccttctta	4440
aacattatat	caataattgc	ataataggca	acctctagcg	attaccataa	ttttgctcat	4500
tgaaggctat	ctccagttga	tcattgggat	gagcatcttt	gtgcatgaat	cctattgctg	4560
tatttgggaa	aattttccaa	ggttagattc	caataaatat	ctattttatta	ttaaaaaaa	4620
aaaaaaaaagg	gcggccgctc	tagagt				4646

```
<210> 32
<211> 1104
<212> PRT
<213> Homo Sapiens
```

<400> 32															
Met 1	Ser	Phe	Arg	Ala 5	Ala	Arg	Leu	Ser	Met 10	Arg	Asn	Arg	Arg	Asn 15	Asp
Thr	Leu	Asp	Ser 20	Thr	Arg	Thr	Leu	Tyr 25	Ser	Ser	Ala	Ser	Arg 30	Ser	Thr
Asp	Leu	Ser 35	Tyr	Ser	Glu	Ser	Asp 40	Leu	Val	Asn	Phe	Ile 45	Gln	Ala	Asn
Phe 50	Lys	Lys	Arg	Glu	Cys	Val 55	Phe	Phe	Thr	Lys	Asp 60	Ser	Lys	Ala	Thr
Glu 65	Asn	Val	Cys	Lys	Cys 70	Gly	Tyr	Ala	Gln	Ser 75	Gln	His	Met	Glu 80	Gly
Thr	Gln	Ile	Asn 85	Gln	Ser	Glu	Lys	Trp	Asn 90	Tyr	Lys	Lys	His 95	Thr	Lys
Glu	Phe	Pro	Thr 100	Asp	Ala	Phe	Gly	Asp 105	Ile	Gln	Phe	Glu	Thr 110	Leu	Gly
Lys	Lys	Gly 115	Lys	Tyr	Ile	Arg	Leu 120	Ser	Cys	Asp	Thr	Asp 125	Ala	Glu	Ile
Leu	Tyr	Glu	Leu	Leu	Thr	Gln	His	Trp	His	Leu	Lys	Thr	Pro	Asn	Leu

-50-

130		135		140
Val Ile Ser Val Thr Gly	Gly Ala Lys Asn Phe	Ala Leu Lys Pro Arg		
145	150	155	160	
Met Arg Lys Ile Phe Ser Arg Leu Ile Tyr Ile Ala Gln Ser Lys Gly				
	165	170	175	
Ala Trp Ile Leu Thr Gly Gly Thr His Tyr Gly Leu Met Lys Tyr Ile				
	180	185	190	
Gly Glu Val Val Arg Asp Asn Thr Ile Ser Arg Ser Ser Glu Glu Asn				
	195	200	205	
Ile Val Ala Ile Gly Ile Ala Ala Trp Gly Met Val Ser Asn Arg Asp				
	210	215	220	
Thr Leu Ile Arg Asn Cys Asp Ala Glu Gly Tyr Phe Leu Ala Gln Tyr				
225	230	235	240	
Leu Met Asp Asp Phe Thr Arg Asp Pro Leu Cys Ile Leu Asp Asn Asn				
	245	250	255	
His Thr His Leu Leu Val Asp Asn Gly Cys His Gly His Pro Thr				
	260	265	270	
Val Glu Ala Lys Leu Arg Asn Gln Leu Glu Lys Tyr Ile Ser Glu Arg				
	275	280	285	
Thr Ile Gln Asp Ser Asn Tyr Gly Gly Lys Ile Pro Ile Val Cys Phe				
	290	295	300	
Ala Gln Gly Gly Gly Lys Glu Thr Leu Lys Ala Ile Asn Thr Ser Ile				
305	310	315	320	
Lys Asn Lys Ile Pro Cys Val Val Val Glu Gly Ser Gly Gln Ile Ala				
	325	330	335	
Asp Val Ile Ala Ser Leu Val Glu Val Glu Asp Ala Leu Thr Ser Ser				
	340	345	350	
Ala Val Lys Glu Lys Leu Val Arg Phe Leu Pro Arg Thr Val Ser Arg				
	355	360	365	
Leu Pro Glu Glu Glu Thr Glu Ser Trp Ile Lys Trp Leu Lys Glu Ile				
	370	375	380	
Leu Glu Cys Ser His Leu Leu Thr Val Ile Lys Met Glu Glu Ala Gly				
385	390	395	400	
Asp Glu Ile Val Ser Asn Ala Ile Ser Tyr Ala Leu Tyr Lys Ala Phe				
	405	410	415	
Ser Thr Ser Glu Gln Asp Lys Asp Asn Trp Asn Gly Gln Leu Lys Leu				
	420	425	430	
Leu Leu Glu Trp Asn Gln Leu Asp Leu Ala Asn Asp Glu Ile Phe Thr				
	435	440	445	
Asn Asp Arg Arg Trp Glu Ser Ala Asp Leu Gln Glu Val Met Phe Thr				
	450	455	460	
Ala Leu Ile Lys Asp Arg Pro Lys Phe Val Arg Leu Phe Leu Glu Asn				
465	470	475	480	
Gly Leu Asn Leu Arg Lys Phe Leu Thr His Asp Val Leu Thr Glu Leu				
	485	490	495	
Phe Ser Asn His Phe Ser Thr Leu Val Tyr Arg Asn Leu Gln Ile Ala				
	500	505	510	
Lys Asn Ser Tyr Asn Asp Ala Leu Leu Thr Phe Val Trp Lys Leu Val				
	515	520	525	
Ala Asn Phe Arg Arg Gly Phe Arg Lys Glu Asp Arg Asn Gly Arg Asp				
	530	535	540	
Glu Met Asp Ile Glu Leu His Asp Val Ser Pro Ile Thr Arg His Pro				
545	550	555	560	
Leu Gln Ala Leu Phe Ile Trp Ala Ile Leu Gln Asn Lys Lys Glu Leu				
	565	570	575	
Ser Lys Val Ile Trp Glu Gln Thr Arg Gly Cys Thr Leu Ala Ala Leu				
	580	585	590	
Gly Ala Ser Lys Leu Leu Lys Thr Leu Ala Lys Val Lys Asn Asp Ile				
	595	600	605	
Asn Ala Ala Gly Glu Ser Glu Glu Leu Ala Asn Glu Tyr Glu Thr Arg				
	610	615	620	

-51-

Ala	Val	Glu	Leu	Phe	Thr	Glu	Cys	Tyr	Ser	Ser	Asp	Glu	Asp	Leu	Ala
625					630					635					640
Glu	Gln	Leu	Leu	Val	Tyr	Ser	Cys	Glu	Ala	Trp	Gly	Gly	Ser	Asn	Cys
				645					650					655	
Leu	Glu	Leu	Ala	Val	Glu	Ala	Thr	Asp	Gln	His	Phe	Ile	Ala	Gln	Pro
			660					665					670		
Gly	Val	Gln	Asn	Phe	Leu	Ser	Lys	Gln	Trp	Tyr	Gly	Glu	Ile	Ser	Arg
		675					680					685			
Asp	Thr	Lys	Asn	Trp	Lys	Ile	Ile	Leu	Cys	Leu	Phe	Ile	Ile	Pro	Leu
	690					695					700				
Val	Gly	Cys	Gly	Phe	Val	Ser	Phe	Arg	Lys	Lys	Pro	Val	Asp	Lys	His
705					710					715					720
Lys	Lys	Leu	Leu	Trp	Tyr	Tyr	Val	Ala	Phe	Phe	Thr	Ser	Pro	Phe	Val
				725					730					735	
Val	Phe	Ser	Trp	Asn	Val	Val	Phe	Tyr	Ile	Ala	Phe	Leu	Leu	Leu	Phe
			740					745					750		
Ala	Tyr	Val	Leu	Leu	Met	Asp	Phe	His	Ser	Val	Pro	His	Pro	Pro	Glu
	755						760					765			
Leu	Val	Leu	Tyr	Ser	Leu	Val	Phe	Val	Leu	Phe	Cys	Asp	Glu	Val	Arg
	770					775					780				
Gln	Trp	Tyr	Val	Asn	Gly	Val	Asn	Tyr	Phe	Thr	Asp	Leu	Trp	Asn	Val
785					790					795					800
Met	Asp	Thr	Leu	Gly	Leu	Phe	Tyr	Phe	Ile	Ala	Gly	Ile	Val	Phe	Arg
				805					810					815	
Leu	His	Ser	Ser	Asn	Lys	Ser	Ser	Leu	Tyr	Ser	Gly	Arg	Val	Ile	Phe
			820					825					830		
Cys	Leu	Asp	Tyr	Ile	Ile	Phe	Thr	Leu	Arg	Leu	Ile	His	Ile	Phe	Thr
		835					840					845			
Val	Ser	Arg	Asn	Leu	Gly	Pro	Lys	Ile	Ile	Met	Leu	Gln	Arg	Met	Leu
	850					855					860				
Ile	Asp	Val	Phe	Phe	Phe	Leu	Phe	Leu	Phe	Ala	Val	Trp	Met	Val	Ala
865					870					875					880
Phe	Gly	Val	Ala	Arg	Gln	Gly	Ile	Leu	Arg	Gln	Asn	Glu	Gln	Arg	Trp
				885					890					895	
Arg	Trp	Ile	Phe	Arg	Ser	Val	Ile	Tyr	Glu	Pro	Tyr	Leu	Ala	Met	Phe
			900					905					910		
Gly	Gln	Val	Pro	Ser	Asp	Val	Asp	Gly	Thr	Thr	Tyr	Asp	Phe	Ala	His
		915					920					925			
Cys	Thr	Phe	Thr	Gly	Asn	Glu	Ser	Lys	Pro	Leu	Cys	Val	Glu	Leu	Asp
	930					935					940				
Glu	His	Asn	Leu	Pro	Arg	Phe	Pro	Glu	Trp	Ile	Thr	Ile	Pro	Leu	Val
945					950					955					960
Cys	Ile	Tyr	Met	Leu	Ser	Thr	Asn	Ile	Leu	Leu	Val	Asn	Leu	Leu	Val
				965					970					975	
Ala	Met	Phe	Gly	Tyr	Thr	Val	Gly	Thr	Val	Gln	Glu	Asn	Asn	Asp	Gln
			980					985					990		
Val	Trp	Lys	Phe	Gln	Arg	Tyr	Phe	Leu	Val	Gln	Glu	Tyr	Cys	Ser	Arg
		995					1000					1005			
Leu	Asn	Ile	Pro	Phe	Pro	Phe	Ile	Val	Phe	Ala	Tyr	Phe	Tyr	Met	Val
	1010					1015					1020				
Val	Lys	Lys	Cys	Phe	Lys	Cys	Cys	Cys	Lys	Glu	Lys	Asn	Met	Glu	Ser
1025					1030					1035					104
Ser	Val	Cys	Cys	Phe	Lys	Asn	Glu	Asp	Asn	Glu	Thr	Leu	Ala	Trp	Glu
				1045					1050					1055	
Gly	Val	Met	Lys	Glu	Asn	Tyr	Leu	Val	Lys	Ile	Asn	Thr	Lys	Ala	Asn
			1060					1065					1070		
Asp	Thr	Ser	Glu	Glu	Met	Arg	His	Arg	Phe	Arg	Gln	Leu	Asp	Thr	Lys
		1075					1080					1085			
Leu	Asn	Asp	Leu	Lys	Gly	Leu	Leu	Lys	Glu	Ile	Ala	Asn	Lys	Ile	Lys
	1090					1095					1100				